



WATER SUPPLY MONITORING REPORT: THIRD QUARTER 2013

CTS OF ASHEVILLE, INC. SUPERFUND SITE

**235 Mills Gap Road
Asheville, Buncombe County, North Carolina
EPA ID: NCD003149556
CERCLA Docket No. CERCLA-04-2012-3762**

Prepared for:

**CTS Corporation
905 West Boulevard North
Elkhart, Indiana 46514**

Prepared by:

**AMEC Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806**

AMEC Project 6252-12-0006

August 26, 2013

August 26, 2013

Ms. Samantha Urquhart-Foster
Superfund Remedial and Site Evaluation Branch
U.S. Environmental Protection Agency
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960
Urquhart-Foster.Samantha@epa.gov

- Subject: Water Supply Monitoring Report: Third Quarter 2013
- CTS of Asheville, Inc. Superfund Site
- 235 Mills Gap Road, Asheville, Buncombe County, North Carolina
- EPA ID: NCD003149556
- CERCLA Docket No. CERCLA-04-2012-3762
- AMEC Project 6252-12-0006

Dear Ms. Urquhart-Foster:

Please find attached the Water Supply Monitoring Report: Third Quarter 2013 for the above-referenced Site. AMEC Environment & Infrastructure, Inc. prepared this Report on behalf of CTS Corporation pursuant to the requirement set forth in Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study between the United States Environmental Protection Agency Region 4 and CTS Corporation (effective date of January 26, 2012).

If you have questions regarding this Water Supply Monitoring Report, please contact us at (828) 252-8130.

Sincerely,

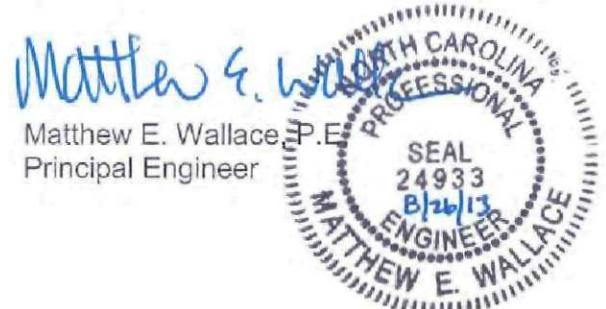
AMEC Environment & Infrastructure, Inc.



Susan E. Kelly, P.E., L.G.
Senior Engineer

SEK/MEW:sek

cc: Elizabeth Ahlemann, CTS Corporation
Michael Dolan, Jones Day
Nile Testerman, NCDENR



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LIST OF ACRONYMS

AMEC	AMEC Environment & Infrastructure, Inc.
FDR	field data record
IRM	Interim Response Measure
MGRA	Mills Gap Road Associates
TCE	trichloroethene (also, trichloroethylene)
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

AMEC Environment & Infrastructure, Inc., on behalf of CTS Corporation, conducted the third quarter 2013 water supply monitoring event for the CTS of Asheville, Inc. Superfund Site (Site). The monitoring activities were conducted pursuant to Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study between the United States Environmental Protection Agency (USEPA) and CTS Corporation.

The USEPA collected and analyzed water supply samples from identified wells/springs within an approximate one-mile radius of the Site on a quarterly basis between September 2008 and March 2012 (14 sampling events). Trichloroethene and associated daughter products were identified in several of the sampled water supply wells and those homes have been connected to the municipal water supply. Since January 2013, AMEC has conducted three water supply well/spring sampling events, including the July 2013 monitoring event.

The objective of the water supply monitoring activities is to collect water supply samples to monitor potential target VOC contamination impacting the residential water supply sources within an approximate one-mile radius of the former plant at the Site. This Water Supply Monitoring Report describes the activities that were undertaken to monitor drinking water quality from water supply wells and springs located within a one-mile radius of the former plant at the Site.

The monitoring activities were conducted in accordance with the USEPA-approved Work Plan for Monitoring of Drinking Water Wells, Revision 1 (Work Plan) dated August 30, 2012. Water supply samples were collected from 22 locations during this quarterly sampling event. The laboratory analytical results of the submitted water samples indicate that the analyzed constituents were not detected above the associated method detection limits. Not considering the data gaps related to water samples not being collected at well locations where a sample could not be collected due to mechanical problems, communication with the homeowner not being successful for scheduling, or the residence at a well location being vacant, the data collected for water supply monitoring are

considered 100 percent complete and usable for meeting the objectives presented in the Work Plan.

1.0 INTRODUCTION

AMEC Environment & Infrastructure, Inc. (AMEC), on behalf of CTS Corporation, has prepared this Water Supply Monitoring Report: Third Quarter 2013 (Report) for the CTS of Asheville, Inc. Superfund Site (Site). This Report describes work conducted in accordance with the Work Plan for Monitoring of Drinking Water Wells, Revision 1 (Work Plan), dated August 30, 2012, which was approved by the United States Environmental Protection Agency (USEPA) in a letter dated October 26, 2012. The water supply monitoring activities were conducted pursuant to Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study (RI/FS) between the USEPA and CTS Corporation (effective date January 26, 2012). This Report describes the activities that were undertaken to monitor drinking water quality from water supply wells and springs located within a one-mile radius of the former plant at the Site.

1.1 SITE DESCRIPTION

The Site is approximately nine acres on Mills Gap Road in Asheville, Buncombe County, North Carolina, and the areal extent of the contamination. The approximate center of the Site is located at north latitude 35°29'36" and west longitude 82°30'25". The Site formerly contained an approximate 95,000-square foot, single-story brick and metal structure in the southern portion of the Site. The building was demolished in December 2011 and the concrete building pad remains intact. The Site is unoccupied.

1.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Environmental investigations have been conducted at the Site by several entities since 1987. The results of previous investigations have been described in other Site documents, and will be presented in the RI/FS Work Plan to be prepared for the Site. The results of previous investigations have identified volatile organic compounds (VOCs), primarily TCE, at the Site.

The USEPA collected and analyzed water supply samples from identified wells/springs within an approximate one-mile radius of the Site on a quarterly basis between September

2008 and March 2012 (14 sampling events). Since January 2013, AMEC has conducted three water supply monitoring events, including the July 2013 monitoring event.

1.3 OBJECTIVE OF WATER SUPPLY MONITORING

The objective of the water supply monitoring activities is to collect water supply samples to monitor potential target VOC concentrations in residential water supply sources within an approximate one-mile radius of the former plant at the Site. Water supply samples will be collected on a quarterly basis from approximately one-quarter of the water supply sources; therefore, each water supply source will be sampled annually.

2.0 WATER SUPPLY MONITORING ACTIVITIES

The water supply monitoring activities were conducted in accordance with the USEPA-approved Work Plan. The Work Plan was developed to monitor potential target VOC concentrations in residential water supply sources within an approximate one-mile radius of the former plant at the Site. The collected water samples were analyzed for the target VOCs associated with the Site and, as requested by the USEPA, the samples were also analyzed for toluene.

2.1 ASSIGNMENT OF SAMPLING LOCATIONS

Access agreements were sent by the USEPA to homes within a one-mile radius of the Site requesting access for AMEC and USEPA personnel to enter an owner's property for collection of water supply samples and/or to service a Respondent-installed Interim Response Measure (IRM) water filtration system. As of July 1, 2013, 101 completed/accepted access agreements had been received by USEPA. Nine of the locations contain an IRM filtration system where water is supplied by a shared well that is located on another property. In such instances, water supply samples (pre- and post-filtration system) will be collected from the "source" well property. At one location, the source well is located on a property that is currently vacant, and the adjacent property, which has an IRM filtration system installed in the residence, obtains water from the source well on the vacant property. In this instance, pre- and post-filtration system samples will be collected at the occupied residence with the IRM filtration system.

In late 2012, the original 87 sampling locations were assigned to a quarterly sampling event (January, April, July, or October) using a random number generator procedure. The resulting sample assignment included 22 sampling locations for the first three quarters and 21 sampling locations for the fourth quarter. As additional access agreements were obtained, the water supply sample locations were assigned sequentially to the next quarter, beginning with the fourth quarter. As of July 1, 2013, an additional five locations had been added to the monitoring program.

2.2 SAMPLING ACTIVITIES

Sampling activities were conducted from July 8 through 11, 2013. A USEPA contractor representative accompanied AMEC during the sampling activities. There were 26 locations planned for the sampling event (one sampling location was postponed from the first quarter 2013 sampling event to this sampling event, and two sampling locations were postponed from the second quarter 2013 sampling event to this sampling event). However, samples were not obtained from the following three locations: 35 Chapel Hill Church Road, 25 Beckingham Lane, 562 School Road, and 651 School Road. A sample could not be collected at 35 Chapel Hill Church Road due to recent plumbing modifications at the wellhead, including removal of the wellhead spigot that was previously used by USEPA contractors for collection of water supply samples. A sample could not be collected at 25 Beckingham Lane because USEPA personnel were unable to make contact with the homeowner for scheduling a time to sample the well. The property owners at 562 School Road and 651 School Road requested that we sample their wells during the next quarterly monitoring event, as the residences at these well locations were currently vacant. These four locations will be sampled during the next quarterly sampling event, but will remain in their assigned quarter sampling group for subsequent sampling.

Where a water supply system has a Respondent-installed IRM filtration system, a water sample was collected pre-filter (at the wellhead or at a sample port 'upstream' of the filtration system) and post-filter (at an interior faucet, exterior spigot, or at a sample port 'downstream' of the filtration system). The well systems were purged for at least 15 minutes prior to sample collection. At residences with an IRM filtration system, the system was purged from a location downstream of the filtration system. At residences without an IRM filtration system, the water system was purged from a spigot on the wellhead. At approximate five-minute intervals during purging, water quality parameters (pH, temperature, conductivity, and turbidity) were measured and recorded on the Water Supply Well Sampling Record Field Data Record (FDR). Copies of the equipment calibration FDRs, sampling FDRs, and the logbook for the sampling activities are included in Appendix A. Photographs of the sampling activities are included in Appendix B. Table 1 contains a summary of the water supply samples collected and associated quality assurance/quality control samples submitted to the laboratory.

The water samples were packed in ice-chilled coolers and delivered under chain-of-custody protocol to the laboratory by AMEC personnel. The samples were delivered to Pace Analytical Services (Pace) in Asheville, North Carolina and couriered by laboratory personnel to Pace's laboratory in Huntersville, North Carolina for analysis.

2.3 ANALYSIS OF WATER SAMPLES

The water samples were submitted for analysis of the following target VOCs according to USEPA Method 8260:

- 1,1-dichloroethene
- cis-1,2-dichloroethene
- trans-1,2-dichloroethene
- tetrachloroethene
- 1,1,1-trichloroethane
- trichloroethene
- vinyl chloride
- toluene

3.0 ANALYTICAL RESULTS AND DATA USABILITY

The following sections describe the laboratory analytical results of the submitted water samples, as well as the results of data validation and data usability. The laboratory analytical reports are included as Appendix C.

The laboratory analytical results of the submitted water samples indicate that the analyzed constituents were not detected above the associated method detection limits.

3.1 DATA VALIDATION

Data validation was conducted based on procedures in the USEPA Region 4 Data Validation Standard Operating Procedures for Organic Analysis (USEPA, 2008). Full validation, including raw data verification and calculation checks, was completed on ten percent of the laboratory data.

The data validation report is included in Appendix D. The results of the data validation did not indicate the presence of quality control issues.

3.2 DATA USABILITY SUMMARY

The field investigation was conducted as proposed in the Work Plan, with the following discrepancies:

- Matrix spike and matrix spike duplicate samples (MS/MSD) were not identified on three of the chain-of-custody records; however, the laboratory used water samples that were included in the sample delivery group to conduct the MS/MSD evaluation.

The field investigation was conducted as proposed in the Work Plan, with the following data gaps:

- A water supply sample was not collected from 35 Chapel Hill Church Road.
- A water supply sample was not collected from 25 Beckingham Lane.
- A water supply sample was not collected from 562 School Road.
- A water supply sample was not collected from 651 School Road.

The identified data gaps were out of the control of AMEC, the Respondent, or USEPA (i.e., mechanical and scheduling issues and a request to sample at a later time) and will be addressed during the next quarterly monitoring event. The data set is considered to be 100 percent complete with respect to the collected data. Therefore, the data are usable for completing the objectives set forth in the Work Plan.

4.0 DISCUSSION AND CONCLUSIONS

The water supply monitoring activities were conducted in accordance with the USEPA-approved Work Plan. Concentrations of analyzed constituents were not detected above the laboratory method detection limits.

The next monitoring event will be conducted in October 2013. In addition to the scheduled sampling locations, samples will be collected from the following locations, which were not accessible during this monitoring event: 35 Chapel Hill Church Road, 25 Beckingham Lane, 562 School Road, and 651 School Road.

TABLE

TABLE 1
Water Supply Sample Summary
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Address	Station ID	Sample ID	Date	Sample Location	Associated QA/QC Samples
6 Forest Run Drive	MGPW086	PW-086A-03	7/8/2013	spigot on wellhead	TB-01-03
6 Forest Run Drive	MGPW086	PW-086B-03	7/8/2013	spigot on house	TB-01-03
22 Moriah Lane	MGPW071	PW-071A-03	7/8/2013	spigot on wellhead	TB-01-03 FD-01-03
22 Moriah Lane	MGPW071	PW-071B-03	7/8/2013	spigot on house	TB-01-03
19 Moriah Lane	MGPW155	PW-155A-03	7/8/2013	spigot on wellhead	TB-01-03
19 Moriah Lane	MGPW155	PW-155B-03	7/8/2013	spigot on house	TB-01-03
26 Moriah Lane	MGPW134	PW-134A-03	7/8/2013	spigot on wellhead	TB-01-03
26 Moriah Lane	MGPW134	PW-134B-03	7/8/2013	spigot on house	TB-01-03
105 Russet Lane	MGPW137	PW-137A-03	7/9/2013	sample port on IRM system	TB-02-03
105 Russet Lane	MGPW137	PW-137B-03	7/9/2013	spigot on house	TB-02-03
84 Concord Road	MGPW090	PW-090-03	7/9/2013	spigot on house	TB-02-03
20 Walsh Trace Drive	MGPW150	PW-150A-03	7/9/2013	spigot on wellhead	TB-02-03
20 Walsh Trace Drive	MGPW150	PW-150B-03	7/9/2013	spigot on house	TB-02-03
15 Forest Run Drive	MGPW023	PW-023A-03	7/9/2013	spigot on wellhead	TB-02-03 FD-02-03
15 Forest Run Drive	MGPW023	PW-023B-03	7/9/2013	spigot on house	TB-02-03
177 Pinners Cove Road	MGPW110	PW-110A-03	7/9/2013	spigot adjacent to wellhead	TB-02-03
177 Pinners Cove Road	MGPW110	PW-110B-03	7/9/2013	spigot on house	TB-02-03
21 Forest Run Drive	MGPW112	PW-112A-03	7/9/2013	spigot on wellhead	TB-02-03
21 Forest Run Drive	MGPW112	PW-112B-03	7/9/2013	spigot on house	TB-02-03
626 School Road	MGPW059	PW-059A-03	7/9/2013	spigot on wellhead	TB-02-03
626 School Road	MGPW059	PW-059B-03	7/9/2013	spigot on house	TB-02-03
613 School Road	MGPW053	PW-053A-03	7/9/2013	sample port on IRM system	TB-02-03 FD-03-03
613 School Road	MGPW053	PW-053B-03	7/9/2013	sample port on IRM system	TB-02-03
36 Wineberry Lane	MGPW129	PW-129A-03	7/9/2013	sample port on IRM system	TB-02-03
36 Wineberry Lane	MGPW129	PW-129B-03	7/9/2013	spigot on house	TB-02-03
26 Hare Ridge	MGPW124	PW-124-03	7/10/2013	spigot on wellhead	TB-03-03
25 Gilmore Drive	MGPW096	PW-096A-03	7/10/2013	sample port on IRM system	TB-03-03
25 Gilmore Drive	MGPW096	PW-096B-03	7/10/2013	sample port on IRM system	TB-03-03
9 Forest Run Drive	MGPW111	PW-111A-03	7/10/2013	spigot on wellhead	TB-03-03
9 Forest Run Drive	MGPW111	PW-111B-03	7/10/2013	spigot on house	TB-03-03
39 Ralph's Lane	MGPW041	PW-041-03	7/10/2013	spigot on house	TB-03-03
42 Concord Road	MGPW045	PW-045A-03	7/10/2013	spigot adjacent to wellhead	TB-03-03
42 Concord Road	MGPW045	PW-045B-03	7/10/2013	sample port on IRM system	TB-03-03
53 Mountain Site Lane	MGPW154	PW-154A-03	7/10/2013	spigot on wellhead	TB-03-03 FD-04-03
53 Mountain Site Lane	MGPW154	PW-154B-03	7/10/2013	spigot on house	TB-03-03
623 School Road	MGPW152	PW-152A-03	7/10/2013	spigot on wellhead	TB-03-03
623 School Road	MGPW152	PW-152B-03	7/10/2013	sample port on IRM system	TB-03-03
625 School Road	MGPW126	PW-126A-03	7/10/2013	spigot on wellhead	TB-04-03
625 School Road	MGPW126	PW-126B-03	7/10/2013	spigot on house	TB-04-03
6 Brae Burn Drive	BBER01	PW-BBER01A-03	7/11/2013	spigot in wellhouse	TB-04-03
6 Brae Burn Drive	BBER01	PW-BBER01B-03	7/11/2013	spigot on house	TB-04-03

Notes:

1. Station IDs provided by USEPA.
2. IRM - Interim Response Measure (Respondent-installed filtration system).
3. Samples denoted with "A" collected before the IRM system and samples denoted with "B" collected after the IRM system.
4. Samples without an "A" or "B" were collected from wells that do not have an IRM system installed.

Prepared By: SEK 7/29/13

Checked By: LRG 7/30/13

FIGURES



Sampling Quarter Key

- First Quarter
- Second Quarter
- Third Quarter
- Fourth Quarter

Locations included in quarterly monitoring updated 7/01/13.



REFERENCE: Parcels from Buncombe County GIS.

QUARTERLY DRINKING WATER WELL LOCATION MAP
CTS OF ASHEVILLE, INC. SUPERFUND SITE
ASHEVILLE, NORTH CAROLINA

DRAWN: SEK	DATE: AUGUST 2013
DFT CHECK: MEW	SCALE: NOT TO SCALE
ENG CHECK: --	PROJ: 6252-12-0006
APPROVAL: MEW	FIGURE: 1



LEGEND

Well Sampled in July 2013



REFERENCE: Parcels from Buncombe County GIS.

DRINKING WATER WELLS SAMPLED IN JULY 2013
CTS OF ASHEVILLE, INC. SUPERFUND SITE
ASHEVILLE, NORTH CAROLINA

DRAWN: SEK	DATE: AUGUST 2013
DFT CHECK: MEW	SCALE: NOT TO SCALE
ENG CHECK:---	PROJ: 6252-12-0006
APPROVAL: MEW	FIGURE: 2

APPENDIX A

LOGBOOK AND FIELD DATA RECORDS

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Location CTS of Asheville Date 7/8/13
 Project / Client Water Supply monitoring -Q3
 6252120006 S.Kelly/AMEC Page 1 of 2

- 13:15 - S.Kelly (AMEC) arrives at
 6 Forest Run Drive
 - R. Stubbins / OTIE (LEPA contractor)
 is at residence
 → purge and collect samples
 PW-096A-03 (13:40) and PW-096B-03 (13:45)
 (backnote: turbidity meter and
 water quality meter calibrated
 at office before leaving, and
 collected ^{9:00}_B purchased ice en route
 to 6 Forest Run Drive)
- 13:55 leave 6 Forest Run Drive and
 drive to 22 Moriah Lane
- 14:00 - at 22 Moriah Lane; purge and
 collect samples PW-071A-03 (14:25) and
 PW-071B-03 (14:30); also collect
 FD-01-03 with PW-071A-03
- 14:50 - to 19 Moriah Lane; purge and
 collect samples PW-155A-03 (15:15)
 and PW-155B-03 (15:20)
- 15:30 - to 26 Moriah Lane; purge and
 collect samples PW-134A-03 (15:50)
 and PW-134B-03 (15:55)
- 16:00 - leave 26 Moriah Lane

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Location CTS of Asheville Date 7/8/13
 Project / Client Water Supply Well Monitoring -Q3
 6252120006 S.Kelly/AMEC Page 2 of 2

- 16:00 - S.Kelly fills out chain of custody
 then drives to lab (Pace Asheville)
 purchases more ice en route
- 16:45 - at lab
 - sign over samples to sample
 custodian
 - lab personnel with carrier
 samples to Pace (Charlotte
 lab for analysis
- 17:00 - leave lab

7/8/13
 22 Moriah Lane

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Location CTS of Asheville Date 7/9/13
 Project / Client Water Supply Monitoring - Q3
 6252120006 S.kelly / AMEC Page 1 of 3

- 800 - S.kelly / AMEC arrives at 105 Russet Lane
 - R. Stubbs / OTIE (EPA contractor) is at residence
 - S.kelly calibrates water quality and turbidity meters (see calibration FDR)
- 830 - begin to purge and collect samples PW-137A-03 (8:50) and PW-137B-03 (8:55)
- 900 - to 84 Concord Road; purge and sample PW-090-03 (9:25)
- 945 - to 20 Walsh Trace Drive; purge and collect samples PW-150A-03 (10:05) and PW-150B-03 (10:10)
- 1015 - to 15 Forest Run Drive; purge and collect samples PW-023A-03 (10:45) and PW-023B-03 (10:50); also collect FD-02-03 with PW-023A-03
- 10:55 - leave 15 Forest Run Drive and S.kelly and R. Stubbs take truck
- 1200 - to 177 Pinners Cove Road; purge and collect samples PW-110A-03 (12:25) and PW-110B-03 (12:30)

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Location CTS of Asheville Date 7/9/13
 Project / Client Water Supply Monitoring - Q3
 6252120006 S.kelly / AMEC Page 2 of 3

- 1235 - leave 177 Pinners Cove Road; take restroom break
- 1250 - to 21 Forest Run Drive; purge and collect samples PW-112A-03 (13:20) and PW-112B-03 (13:25)
- 1330 - to 613 School Road; purge and collect samples PW-059A-03 (14:05) and PW-059B-03 (14:10)
- 1415 - to 613 School Road; purge and collect samples PW-053A-03 (14:45) and PW-053B-03 (14:50); also collect FD-03-03 with PW-053A-03
- 1500 - to 36 Wineberry Lane; wait for homeowner to arrive home (have appointment at 16:00)
- 1555 - homeowner arrives
 - purge and collect samples PW-129A-03 (16:15) and PW-129B-03 (16:20)
- 1625 - leave 36 Wineberry Lane
 - S.kelly completes chain-of custody and drives to lab (Pace Asheville) and purchases more ice en route
- 1645 - arrive at lab

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Location CTS of Asheville Date 7/9/13
 Project / Client water Supply monitoring -Q3
 6252120006 S.Kelly/AMEC Page 3 of 3

16:45 - at lab, sign over samples
 to sample custodian.
 - lab personnel will carrier
 samples to Pale Charlotte lab
 for analysis

16:50 - S.kelly leaves lab

Back note: Homeowner of

21 Forest Run Drive also

^{ED 7/9/13} owns 526 562 School Rd

and indicates pump

not turned on at 562

Schall Rd and home

is vacant; will

delay sampling

until next

quarter

^{ED 7/9/13}

~~DO NOT TAKE~~

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Location CTS of Asheville Date 7/10/13
 Project / Client water Supply monitoring -Q3
 6252120006 S.Kelly/AMEC Page 1 of 2

830 - S.Kelly/AMEC arrives at 26 Hare Rd
 - R. Stubbs (OTIE (EDA contractor))
 is at residence
 - S.Kelly calibrated water quality
 and turbidity meters before
 leaving for site (see calibration
 FDR)
 - purge well and collect sample
 PW-124-03 (9:00)

915 - to 25 Gilmore Drive; purge and
 collect samples PW-096A-03 (9:50)
 and PW-096B-03 (9:55)

^{ED 7/10/13}
 10:00 - to 914 Forest Run Drive) purge
 and collect samples PW-111A-03
 (10:30) and PW-111B-03 (10:35)

1040 to 39 Ralph's Lane; purge and
 collect sample PW-041-03 (11:10)

11:15 - 12:15 S.Kelly & R.Stubbs take lunch

12:15 - to 42 Concord Road; purge and
 collect samples PW-045A-03 (12:50)
 and PW-045B-03 (12:55)

13:00 leave 42 Concord Road; S.Kelly
 & R.Stubbs take restroom break

13:10 to 53 Mountain Site Lane

Location CTS of Asheville Date 7/10/13
 Project / Client Water Supply Monitoring -Q3
 6252120006 S.kelly / Amec Page 2 of 2

13:15 at 53 Mountain Side Lane; purge and collect samples PW-154A-03 (13:45) and PW-154B-03; also collect FD-04-03 at PW-154A-03

14:00 to 623 School Road; purge and collect samples PW-152A-03 (14:40) and PW-152B-03 (14:45)

14:50 - leave 623 School Road
 - S.kelly drives to lab (Pace Asheville)
 - stops en route to complete chain of custody

15:25 - at lab, sign over samples to sample custodian
 - lab personnel will carrier samples to Pace Charlotte Lab for analysis

15:35 - S.kelly leaves lab to office

16:30 - S.kelly leaves office to 625 School Road

17:00 - arrive at 625 School Road
 - R Stobbs arrives at residence
 - purge and collect samples PW-126A-03 (17:25) and PW-126B-03 (17:30)

17:35 done for the day Arman W

7/10/13

Location CTS of Asheville Date 7/10/13
 Project / Client Water Supply Monitoring -Q3
 6252120006 S.kelly / Amec Page 1 of 2

8:00 - S.kelly / Amec arrives at 6 Brae Burn Drive
 - R. Stobbs / OTIE (EPA contractor) arrives at residence
 - purge and collect samples PW-BBER01A-03 (8:35) and PW-BBER01B-03 (8:40)

8:45 to 35 Chapel Hill church Road
 - homeowner has not yet installed a spigot that will allow sample collection before filtration system
 - will delay sampling this location until next sampling event (October 2013)

9:05 to 25 Buckingham Lane
 - homeowner is not home and we cannot locate a spigot from which to collect sample
 - talk to S.Urguhart-Foster (EPA pm) and she indicates that well was supposed to be sampled last quarter; however homeowner indicated pump was not working at that time
 - decide to delay sampling this

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Location CTS of Asheville Date 7/11/13

Project / Client Water Supply Monitoring - 93

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location until next quarterly Sampling event

9:40 - leave 25 Beckingham Lane

-S. Kelly to office

- complete chain of custody while at office

14:10 - S. Kelly to lab (Pace Asheville)

14.25- at lab; sign over samples

to sample custodian

- lab personnel will carrier samples to Pace Charlotte lab for analysis

14:30 - leave lab

MWB

200

10

1

111113

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Location _____ Date _____

Project / Client _____

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 7/8/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q3)

Name: S. Kelley

Water Quality Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	YSI	pH: 4 SU (low)	pH: <u>3.94</u> SU	+/- 10% of standard
Model No.:	63	pH: 7 SU (med)	pH: <u>6.80</u> SU	+/- 10% of standard
Unit ID:	5333 (Pine Env.)	pH: 10 SU (high)	pH: <u>10.09</u> SU	+/- 10% of standard
		Conductivity: 1.413 mS/cm	Conductivity: <u>1.416</u> mS/cm	+/- 10% of standard
		Thermometer Temperature: _____ °C	Temperature: _____ °C	+/- 2.0 °C

Turbidity Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	Hach	<0.1 NTU (low)	<u>0.08</u> NTU	+/- 10% of standard
Model No.:	2100P	20 NTU (med)	<u>19.8</u> NTU	+/- 10% of standard
Unit ID:	5306 (Pine Env.)	100 NTU (high)	<u>100</u> NTU	+/- 10% of standard
		800 NTU (high)	<u>791</u> NTU	+/- 10% of standard

Photoionization Detector				Acceptance Criteria
Manufacturer:	_____	Background:	_____ ppmv	Meter: _____ ppmv within 5 ppmv of Zero
Model No.:	_____	Span Gas:	_____ ppmv	Meter: _____ ppmv +/ - 10% of standard
Unit ID:	_____			

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH (low)	Pine Env.	4 SU	<u>2AC547</u>	<u>3/2014</u>
pH (med)	Pine Env.	7 SU	<u>2AE340</u>	<u>5/2014</u>
pH (high)	Pine Env.	10 SU	<u>2AE261</u>	<u>5/2014</u>
Conductivity	Pine Env.	1.413 mS/cm	<u>2AE883</u>	<u>5/2013</u>
Turbidity (low)	Hach - Formazin	<0.1 NTU	A3074	3/2014
Turbidity (med):	Hach - Formazin	20 NTU	A3106	4/2014
Turbidity (high):	Hach - Formazin	100 NTU	A3100	4/2014
Turbidity (high):	Hach - Formazin	800 NTU	A3107	4/2014
PID gas:	_____	ppmv	_____	_____
Other:	_____	_____	_____	_____

NOTES:

If a meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 7/9/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q3)

Name: S. Kelly

Water Quality Meter Calibration

		Standard Value		Meter Value		Acceptance Criteria	
Manufacturer:	YSI	pH:	4	SU (low)	pH: <u>4.01</u>	SU	+/- 10% of standard
Model No.:	63	pH:	7	SU (med)	pH: <u>7.02</u>	SU	+/- 10% of standard
Unit ID:	5333 (Pine Env.)	pH:	10	SU (high)	pH: <u>10.14</u>	SU	+/- 10% of standard
		Conductivity:	1.413	mS/cm	Conductivity: <u>1.415</u>	mS/cm	+/- 10% of standard
		Thermometer Temperature:		C°	Temperature: <u></u>	C°	+/- 2.0 C°

Turbidity Meter Calibration

		Standard Value		Meter Value		Acceptance Criteria	
Manufacturer:	Hach	<0.1	NTU (low)	<u>0.08</u>	NTU	+/- 10% of standard	
Model No.:	2100P	20	NTU (med)	<u>20.0</u>	NTU	+/- 10% of standard	
Unit ID:	5306 (Pine Env.)	100	NTU (high)	<u>99.7</u>	NTU	+/- 10% of standard	
		800	NTU (high)	<u>787</u>	NTU	+/- 10% of standard	

Photoionization Detector

Manufacturer:	Background:	ppmv	Meter:	ppmv	within 5 ppmv of Zero
Model No.:	Span Gas:	ppmv	Meter:	ppmv	+/- 10% of standard
Unit ID:					

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH (low)	Pine Env.	4 SU	<u>2AE 547</u>	<u>3/2014</u>
pH (med)	Pine Env.	7 SU	<u>2AE 340</u>	<u>5/2014</u>
pH (high)	Pine Env.	10 SU	<u>2AE 261</u>	<u>5/2014</u>
Conductivity	Pine Env.	1.413 mS/cm	<u>2AE 083</u>	<u>5/2013</u>
Turbidity (low)	Hach - Formazin	<0.1 NTU	A3074	3/2014
Turbidity (med):	Hach - Formazin	20 NTU	A3106	4/2014
Turbidity (high):	Hach - Formazin	100 NTU	A3100	4/2014
Turbidity (high):	Hach - Formazin	800 NTU	A3107	4/2014
PID gas:		ppmv		
Other:				

NOTES:

If a meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 7/10/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q3)

Name: S. kelby

Water Quality Meter Calibration

		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	YSI	pH: 4 SU (low)	pH: 3.97 SU	+/- 10% of standard
Model No.:	63	pH: 7 SU (med)	pH: 7.10 SU	+/- 10% of standard
Unit ID:	5333 (Pine Env.)	pH: 10 SU (high)	pH: 10.02 SU	+/- 10% of standard
		Conductivity: 1.413 mS/cm	Conductivity: 1.411 mS/cm	+/- 10% of standard
		Thermometer Temperature: _____ °C	Temperature: _____ °C	+/- 2.0 °C

Turbidity Meter Calibration

		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	Hach	<0.1 NTU (low)	0.07 NTU	+/- 10% of standard
Model No.:	2100P	20 NTU (med)	20.1 NTU	+/- 10% of standard
Unit ID:	5306 (Pine Env.)	100 NTU (high)	100 NTU	+/- 10% of standard
		800 NTU (high)	794 NTU	+/- 10% of standard

Photoionization Detector

Manufacturer:	Background:	ppmv	Meter:	ppmv	within 5 ppmv of Zero
Model No.:	Span Gas:	ppmv	Meter:	ppmv	+/- 10% of standard
Unit ID:					

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH (low)	Pine Env.	4 SU	2AJ489	10/31/14
pH (med)	Pine Env.	7 SU	2AK534	11/31/14
pH (high)	Pine Env.	10 SU	2AL122	12/31/14
Conductivity	Pine Env.	1.413 mS/cm	3AC609	3/31/14
Turbidity (low)	Hach - Formazin	<0.1 NTU	A3074	3/2014
Turbidity (med):	Hach - Formazin	20 NTU	A3106	4/2014
Turbidity (high):	Hach - Formazin	100 NTU	A3100	4/2014
Turbidity (high):	Hach - Formazin	800 NTU	A3107	4/2014
PID gas:		ppmv		
Other:				

NOTES:

If a meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 7/11/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q3)

Name: S. Kelly

Water Quality Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	YSI	pH: 4 SU (low)	pH: <u>3.91</u> SU	+/- 10% of standard
Model No.:	63	pH: 7 SU (med)	pH: <u>7.09</u> SU	+/- 10% of standard
Unit ID:	5333 (Pine Env.)	pH: 10 SU (high)	pH: <u>10.13</u> SU	+/- 10% of standard
		Conductivity: 1.413 mS/cm	Conductivity: <u>1.413</u> mS/cm	+/- 10% of standard
		Thermometer Temperature: _____ °C	Temperature: _____ °C	+/- 2.0 °C

Turbidity Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	Hach	<0.1 NTU (low)	<u>0.09</u> NTU	+/- 10% of standard
Model No.:	2100P	20 NTU (med)	<u>20.0</u> NTU	+/- 10% of standard
Unit ID:	5306 (Pine Env.)	100 NTU (high)	<u>99.2</u> NTU	+/- 10% of standard
		800 NTU (high)	<u>805</u> NTU	+/- 10% of standard

Photoionization Detector				Acceptance Criteria
Manufacturer:	_____	Background:	_____ ppmv	Meter: _____ ppmv within 5 ppmv of Zero
Model No.:	_____	Span Gas:	_____ ppmv	Meter: _____ ppmv +/10% of standard
Unit ID:	_____			

	Source	Value	Lot Number	Expiration Date
pH (low)	Pine Env.	4 SU	<u>A2AJ488</u>	<u>10/31/14</u>
pH (med)	Pine Env.	7 SU	<u>2AK536</u>	<u>11/31/14</u>
pH (high)	Pine Env.	10 SU	<u>2AL122</u>	<u>12/31/14</u>
Conductivity	Pine Env.	1.413 mS/cm	<u>3AC609</u>	<u>3/31/14</u>
Turbidity (low)	Hach - Formazin	<0.1 NTU	A3074	3/2014
Turbidity (med):	Hach - Formazin	20 NTU	A3106	4/2014
Turbidity (high):	Hach - Formazin	100 NTU	A3100	4/2014
Turbidity (high):	Hach - Formazin	800 NTU	A3107	4/2014
PID gas:	_____	ppmv	_____	_____
Other:	_____	_____	_____	_____

NOTES:

If a meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 6 Forest Run Drive EPA Station ID: MG PW 086

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-086A-03 Sample Date/Time: 7/8/13 - 1340

Post-filter Sample Location: Spigot on hose

Post-filter Sample: PW-086B-03 Sample Date/Time: 7/8/13 1345

Purge Start Time: 13:22 Purge Stop Time: 13:50

Flow Rate: 6.7 gpm (approximate) Volume Purged: 120 gallons (approximate)

QA/QC Sample(s): TB-01-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	7.92	18.9	174.1	0.45	
13:27	7.53	18.0	178.9	1.58	
13:32	7.11	16.8	177.0	0.37	
13:37	7.08	16.2	176.7	0.46	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- leave spigot on hose on during sampling at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 22 Mariah Lane EPA Station ID: M6PW071

Pre-filter Sample Location: Spigot on wellhead
Pre-filter Sample: M6PW071A-03 Sample Date/Time: 7/8/13 14:25

Post-filter Sample Location: Spigot on house
Post-filter Sample: PW-D71B-03 Sample Date/Time: 7/8/13 14:30

Purge Start Time: 14:06 Purge Stop Time: 14:25

Flow Rate: 3.5 gpm (approximate) Volume Purged: 67 gallons (approximate)

QA/QC Sample(s): IB-01-03; FD-01-03 (@ PW-071A-03)

Time	pH	Temperature (°C)	Conductivity $\mu\text{S}/\text{cm}$	Turbidity (NTU)	Comments
initial	5.94	23.4	0.13	0.46	
14:11	5.79	22.8	0.12	0.30	
14:16	5.77	22.5	0.13	0.16	
14:20	5.89	19.2	0.12	1.07	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 19 Moriah Lane EPA Station ID: M6Pw155

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: Pw-155A-03 Sample Date/Time: 7/8/13 15:15

Post-filter Sample Location: Spigot on house

Post-filter Sample: Pw-155B-03 Sample Date/Time: 7/8/13 15:20

Purge Start Time: 14:58 Purge Stop Time: 15:15

Flow Rate: 2.5 gpm (approximate) Volume Purged: 43 gallons (approximate)

QA/QC Sample(s): TB-01-03

Time	pH	Temperature (°C)	Conductivity <small>($\mu\text{S}/\text{cm}$)</small>	Turbidity (NTU)	Comments
initial	6.26	22.7	0.20	0.18	
15:03	6.29	21.4	0.20	0.10	
15:08	6.37	20.6	0.21	0.10	
15:13	6.42	19.4	0.20	0.10	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- Spigot on house

purge from

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 26 Moriah Lane EPA Station ID: MGPW134

Pre-filter Sample Location: Spigot on wellhead

Pre-filter Sample: PW-134A-03 Sample Date/Time: 7/8/13 15:50

Post-filter Sample Location: Spigot on house

Post-filter Sample: PW134B-03 Sample Date/Time: 7/8/13 15:55

Purge Start Time: 15:31 Purge Stop Time: 15:48

Flow Rate: 5 gpm (approximate) Volume Purged: 85 gallons (approximate)

QA/QC Sample(s): TB-D1-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	10.15	24.1	122.9	0.46	
15:36	5.70	22.9	102.8	0.15	
15:41	5.65	18.0	86	0.36	
15:48	5.66	16.5	83	0.17	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.kelly

Well Address: 105 PVsett Lane EPA Station ID: MGPW137

Pre-filter Sample Location: pre-system sample port

Pre-filter Sample: PW-137A-03 Sample Date/Time: 7/9/13 8:50

Post-filter Sample Location: spigot on house

Post-filter Sample: PW-137B-03 Sample Date/Time: 7/9/13 8:55

Purge Start Time: 8:31 Purge Stop Time: 8:46

Flow Rate: 7.5 gpm (approximate) Volume Purged: 113 gallons (approximate)

QA/QC Sample(s): TB-02-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	5.71	19.3	170.9	1.93	
8:36	5.90	17.2	168.2	0.43	
8:41	6.04	15.4	178.1	1.74	
8:46	6.11	15.2	181.4	0.40	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly

Well Address: 84 Concord Road EPA Station ID: M6PW090

Pre-filter Sample Location: Spigot on house

Pre-filter Sample: PW-090-03 Sample Date/Time: 7/9/13 9:25

Post-filter Sample Location: N/A

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 9:10 Purge Stop Time: 9:25

Flow Rate: 4.5 gpm (approximate) Volume Purged: 68 gallons (approximate)

QA/QC Sample(s): JB-D2-D3

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.95	20.7	193.2	16.6	
9:15	7.24	17.7	185.3	1.54	
9:20	7.39	16.1	189.6	1.06	
9:25	7.47	16.0	188.8	1.06	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- = purge from spigot on house (there is not a spigot at wellhead)
- = remove in-line sediment filter cartridge during purging and sampling and replace cartridge when done.

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.kelly

Well Address: 20 Walsh Trace EPA Station ID: MGDW150

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-150A-03 Sample Date/Time: 7/9/13 10:05

Post-filter Sample Location: Spigot on house

Post-filter Sample: PW-150B-03 Sample Date/Time: 7/9/13 10:10

Purge Start Time: 9:48 Purge Stop Time: 10:05

Flow Rate: 0.7 gpm (approximate) Volume Purged: 114 gallons (approximate)

QA/QC Sample(s): TB-02-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	7.26	18.0	152.4	0.58	
9:53	6.44	15.8	149.5	0.24	
9:58	6.44	14.8	153.1	0.35	
10:03	6.41	14.7	149.1	0.32	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from Spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.kelly

Well Address: 15 Forest Run Drive EPA Station ID: W6PW023

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-023A-03 Sample Date/Time: 7/9/13 10:45

Post-filter Sample Location: Spigot on house

Post-filter Sample: PW-023B-03 Sample Date/Time: 7/9/13 10:50

Purge Start Time: 10:27 Purge Stop Time: 10:43

Flow Rate: 5 gpm (approximate) Volume Purged: 80 gallons (approximate)

QA/QC Sample(s): JB-02-03; FI-02-03 (2 PW-023A-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.51	19.0	64.6	0.45	
10:32	6.08	18.8	62.3	0.77	
10:37	5.98	16.8	60.1	0.53	
10:42	5.91	15.7	61.0	0.35	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from Spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly

Well Address: 177 Pinners Cove Rd EPA Station ID: WGPW110

Pre-filter Sample Location: yard spigot adjacent to well

Pre-filter Sample: DW-110A-03 Sample Date/Time: 7/9/13 12:25

Post-filter Sample Location: spigot on house

Post-filter Sample: DW-110B-03 Sample Date/Time: 7/9/13 12:30

Purge Start Time: 12:06 Purge Stop Time: 12:22

Flow Rate: 8 gpm (approximate) Volume Purged: 128 gallons (approximate)

QA/QC Sample(s): TB-02-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.75	19.6	151.8	0.47	
12:11	6.68	16.8	153.0	1.04	
12:16	6.65	15.6	151.5	0.78	
12:21	6.64	15.3	152.8	0.89	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 21 Forest Rim Drive EPA Station ID: M6.PN112

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-112A-03 Sample Date/Time: 7/19/13 13:20

Post-filter Sample Location: Spigot on house

Post-filter Sample: PW-112B-03 Sample Date/Time: 7/19/13 13:25

Purge Start Time: 13:00 Purge Stop Time: 13:10

Flow Rate: 3 gpm (approximate) Volume Purged: 48 gallons (approximate)

QA/QC Sample(s): TB-D2-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	7.86	19.3	38.9	0.89	
13:05	6.42	17.9	37.1	0.24	
13:10	6.14	17.4	36.3	0.72	
13:15	6.03	17.2	36.0		

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 626 School Road EPA Station ID: WGPW059

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-059A-03 Sample Date/Time: 7/9/13 14:05

Post-filter Sample Location: spigot on house

Post-filter Sample: PW-059B-03 Sample Date/Time: 7/9/13 14:10

Purge Start Time: 13:45 Purge Stop Time: 14:00

Flow Rate: 3 gpm (approximate) Volume Purged: 45 gallons (approximate)

QA/QC Sample(s): TB-02-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.36	20.5	74.6	0.19	
13:50	6.14	19.5	73.4	0.29	
13:55	6.06	19.3	72.8	0.24	
14:00	6.06	17.2	71.8	0.11	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 1053 School Road EPA Station ID: W.G. PW053

Pre-filter Sample Location: pre-system sample port

Pre-filter Sample: PW-053A-03 Sample Date/Time: 7/9/13 14:45

Post-filter Sample Location: post-system sample port

Post-filter Sample: PW-053B-03 Sample Date/Time: 7/9/13 14:50

Purge Start Time: 14:28 Purge Stop Time: 14:44

Flow Rate: 5.5 gpm (approximate) Volume Purged: 88 gallons (approximate)

QA/QC Sample(s): TB-02-03; FD-03-03 (PW-053A-03)

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.99	19.4	324.1	0.29	
14:33	7.17	17.6	334.2	0.11	
14:38	7.22	17.3	333.3	0.23	
14:43	7.25	16.2	336.4	0.10	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from post-system sample port

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly

Well Address: 36 Wineberry Lane EPA Station ID: MWPW129

Pre-filter Sample Location: Pre-system sample port

Pre-filter Sample: PW-129A-03 Sample Date/Time: 7/9/13 14:15

Post-filter Sample Location: spigot on house

Post-filter Sample: PW-129B-03 Sample Date/Time: 7/9/13 16:20

Purge Start Time: 15:58 Purge Stop Time: 16:15

Flow Rate: 2.5 gpm (approximate) Volume Purged: 43 gallons (approximate)

QA/QC Sample(s): TB-02-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	7.659	29.3	66.8	0.10	
16:03	6.01	20.7	64.6	0.69	
16:08	5.85	20.3	62.8	0.09	
16:13	5.82	18.8	62.5	1.25	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- Purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: Skelby

Well Address: 26 Hare Ridge EPA Station ID: MG PW124

Pre-filter Sample Location: spigot on wellhead

Pre-filter Sample: PW124-03 Sample Date/Time: 7/10/13 9:00

Post-filter Sample Location: N/A

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 8:45 Purge Stop Time: 9:03

Flow Rate: 5.5 gpm (approximate) Volume Purged: 99 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.35	15.8 16.3 7/10/13	96.2	0.34	
8:50	6.16	15.2	94.3	0.60	
8:55	5.98	15.1	94.7	1.10	
9:00	5.89	15.2	94.5	0.32	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from spigot on wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelby

Well Address: 25 Gilmore Drive EPA Station ID: M6PW096

Pre-filter Sample Location: pre-system sample port

Pre-filter Sample: PW-096A-03 Sample Date/Time: 7/10/13 9:50

Post-filter Sample Location: post-system sample port

Post-filter Sample: PW-096B-03 Sample Date/Time: 7/10/13 9:55

Purge Start Time: 9:33 Purge Stop Time: 9:49

Flow Rate: 5 gpm (approximate) Volume Purged: 80 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.66	17.7	206.1	0.32	
9:38	6.93	17.0	208.3	0.52	
9:43	7.13	16.7	208.0	0.28	
9:48	7.26	16.3	207.7	0.17	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

✓ purge from post-system sample port

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly

Well Address: 1 Forest Run Drive EPA Station ID: MGPW1

Pre-filter Sample Location: spigot on wellhead

Pre-filter Sample: PW-111A-03 Sample Date/Time: 7/10/13 10:30

Post-filter Sample Location: spigot on house

Post-filter Sample: PW-111B-03 Sample Date/Time: 7/10/13 10:35

Purge Start Time: 10:12 Purge Stop Time: 10:13 10:28

Flow Rate: 2 gpm (approximate) Volume Purged: .32 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	7.21	18.4	188.3	0.65	
10:17	6.95	18.0	188.4	0.14	
10:22	6.87	18.5	187.3	0.14	
10:27	6.88	18.7	183.7	0.10	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 39 Ralphs Lane EPA Station ID: W1GPN1041

Pre-filter Sample Location: purge from spigot on house

Pre-filter Sample: PW-041-03 Sample Date/Time: 7/10/13 11:10

Post-filter Sample Location: N/A

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 10:55 Purge Stop Time: 11:10

Flow Rate: 3.5 gpm (approximate) Volume Purged: 53 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.75	17.5	54.0	2.03	
11:00	6.32	15.3	49.4	1.91	
11:05	6.16	15.2	49.7	0.87	
11:10	6.06	15.2	49.6		

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 42 Concord Road EPA Station ID: MGPW045

Pre-filter Sample Location: Spigot adjacent to wellhead

Pre-filter Sample: PW-045A-03 Sample Date/Time: 7/10/13 12:50

Post-filter Sample Location: post-system sample port

Post-filter Sample: PW-045B-03 Sample Date/Time: 7/10/13 12:55

Purge Start Time: 12:31 Purge Stop Time: 12:33:48

Flow Rate: 0.8 gpm (approximate) Volume Purged: 14 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.70	19.8	27.3	0.19	
12:36	6.16	16.7	26.5	0.04	
12:41	6.01	16.5	26.7	0.10	
12:46	5.95	17.0	26.1	0.26	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from post-system sample port ; purge at low flow rate due to historically low producing well

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 53 Mountain Site Lane EPA Station ID: NAGDW154

Pre-filter Sample Location: Spigot at wellhead

Pre-filter Sample: PW-154A-03 Sample Date/Time: 7/10/13 13:45

Post-filter Sample Location: Spigot on house

Post-filter Sample: PW-154B-03 Sample Date/Time: 7/10/13 13:50

Purge Start Time: 13:25 Purge Stop Time: 13:42 +

Flow Rate: 3 gpm (approximate) Volume Purged: 100 gallons (approximate)

QA/QC Sample(s): TB-03-03 ; FD-04-03 (P/PW-154A-03)

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.65	20.9	257.3	0.26	
13:30	6.67	19.4	263.3	0.35	
13:35	6.74	18.7	260.3	0.29	
13:40	6.79	18.3	261.0	0.20	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

purge from spigot on house; leave spigot at house on during collection of sample at wellhead
 (1) 7/10/13

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 623 School Road EPA Station ID: MGPW152

Pre-filter Sample Location: Spigot at well head

Pre-filter Sample: PW-152A-03 Sample Date/Time: 7/10/13 14:40

Post-filter Sample Location: post-system sample port

Post-filter Sample: PW-152B-03 Sample Date/Time: 7/10/13 14:45

Purge Start Time: 14:20 Purge Stop Time: 14:36

Flow Rate: 3 gpm (approximate) Volume Purged: 48 gallons (approximate)

QA/QC Sample(s): TB-03-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	6.79	22.8	202.2	0.45	
14:25	6.35	22.0	199.2	0.33	
14:30	6.31	21.8	198.6	0.92	
14:35	6.33	20.0	197.7	0.10	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from post-system sample port

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly

Well Address: 675 School Road EPA Station ID: M6Pw126

Pre-filter Sample Location: spigot at wellhead 7/10/13

Pre-filter Sample: Pw-126A-03 Sample Date/Time: 7/10/13 17:25

Post-filter Sample Location: spigot on house

Post-filter Sample: Pw-126B-03 Sample Date/Time: 7/10/13 17:30

Purge Start Time: 17:08 Purge Stop Time: 17:24

Flow Rate: 5 gpm (approximate) Volume Purged: 80 gallons (approximate)

QA/QC Sample(s): TR-04-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	4.83	22.9	112.6	0.10	
17:13	4.30	21.3	108.2	0.22	
17:18	4.14	18.8	105.7	0.22	
17:23	4.12	17.3	106.6	0.22	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-purge from spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: Skelely

Well Address: 10 Brae Burn EPA Station ID: BBER01

Pre-filter Sample Location: spigot in wellhouse

Pre-filter Sample: PW-BBER01A-03 Sample Date/Time: 7/11/13 8:35

Post-filter Sample Location: spigot on house

Post-filter Sample: PW-BBER01B-03 Sample Date/Time: 7/11/13 8:40

Purge Start Time: 8:18 Purge Stop Time: 8:34

Flow Rate: 3.5 gpm (approximate) Volume Purged: 56 gallons (approximate)

QA/QC Sample(s): TB-04-03

Time	pH	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
initial	5.90	20.5	85.5	0.17	
8:23	5.83	20.5	82.1	0.18	
8:28	5.86	18.5	81.1	0.17	
8:33	5.89	17.5	80.8	0.21	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

-well is 240 to 280' deep; pump recently replaced

WATER SUPPLY MONITORING - SAMPLE SUMMARY FORM

Project Name: CTS of Asheville, Inc. Superfund Site
 Project Number: 6252-12-0006.0004 Q3

Page 1 of 2

Sample ID	Sampler's Initials	Sample Date	Sample Time	Associated QA/QC Sample(s)	Notes/Comments
TB-01-03	lab 8/13		lub prep	N/A	
PW-086A-03	8k	7/8/13	1340	TB-01-03	
PW-086B-03	8k	7/8/13	1345	TB-01-03	
PW-071A-03	8k	7/8/13	1425	TB-01-03 FD-01-03	
PW-071B-03	8k	7/8/13	1430	TB-01-03	
FD-01-03	8k	7/8/13	1425	TB-01-03	
PW-155A-03	8k	7/8/13	1515	TB-01-03	
PW-155B-03	8k	7/8/13	1520	TB-01-03	
PW-134A-03	8k	7/8/13	15:50	TB-01-03	
PW-134B-03	8k	7/8/13	15:55	TB-01-03	
TB-02-03	lab		lub prep	N/A	
PW-137A-03	8k	7/9/13	850	① 7/9/13 N/A TB-02-03	
PW-137B-03	8k	7/9/13	855	TB-02-03	
PW-090-03	8k	7/9/13	9:25	TB-02-03	
PW-150A-03	8k	7/9/13	10:05	TB-02-03	
PW-150B-03	8k	7/9/13	10:10	TB-02-03	
PW-023A-03	8k	7/9/13	10:45	FD-02-03 TB-02-03	
PW-023B-03	8k	7/9/13	10:50	TB-02-03	
FD-02-03	8k	7/9/13	10:45	TB-02-03	
PW-110A-03	8k	7/9/13	12:25	TB-02-03	
PW-110B-03	8k	7/9/13	12:30	TB-02-03	
PW-112A-03	8k	7/9/13	13:20	TB-02-03	
PW-112B-03	8k	7/9/13	13:25	TB-02-03	
PW-059A-03	8k	7/9/13	14:05	TB-02-03	
PW-059B-03	8k	7/9/13	14:10	TB-02-03	

WATER SUPPLY MONITORING - SAMPLE SUMMARY FORM

Project Name: CTS of Asheville, Inc. Superfund Site

Page 2 of 2

Project Number: 6252-12-0006.0004 Q3

Sample ID	Sampler's Initials	Sample Date	Sample Time	Associated QA/QC Sample(s)	Notes/Comments
PW-053A-03	Sk	7/9/13	14:45	TB-02-03 FD-03-03	
PW-053B-03	Sk	7/9/13	14:50	TB-02-03	
FD-03-03	Sk	7/9/13	14:45	TB-02-03	
PW-129A-03	Sk	7/9/13	16:15	TB-02-03	
PW-129B-03	Sk	7/9/13	16:20	TB-02-03	
TB-03-03	Lab	Lab prep		N/A	
PW-124-03	Sk	7/10/13	9:00	TB-03-03	
PW-096A-03	Sk	7/10/13	9:50	TB-03-03	
PW-096B-03	Sk	7/10/13	9:55	TB-03-03	
PW-111A-03	Sk	7/10/13	10:30	TB-03-03	
PW-111B-03	Sk	7/10/13	10:35	TB-03-03	
PW-041-03	Sk	7/10/13	11:10	TB-03-03	
PW-045A-03	Sk	7/10/13	12:50	TB-03-03	
PW-045B-03	Sk	7/10/13	12:55	TB-03-03	
PW-154A-03	Sk	7/10/13	13:45	FD-04-03 TB-03-03	
PW-154B-03	Sk	7/10/13	13:50	TB-03-03	
FD-04-03	Sk	7/10/13	13:45	TB-03-03	
PW-152A-03	Sk	7/10/13	14:40	TB-03-03	
PW-152B-03	Sk	7/10/13	14:45	TB-03-03	
TB-04-03	Lab	Lab prep		N/A	
PW-126A-03	Sk	7/10/13	17:25	TB-04-03	
PW-126B-03	Sk	7/10/13	17:30	TB-04-03	
PW-BBER01A-03	Sk	7/11/13	8:35	TB-04-03	
PW-BBER01B-03	Sk	7/11/13	8:40	TB-04-03	

APPENDIX B

PHOTOGRAPHS OF SAMPLING ACTIVITIES

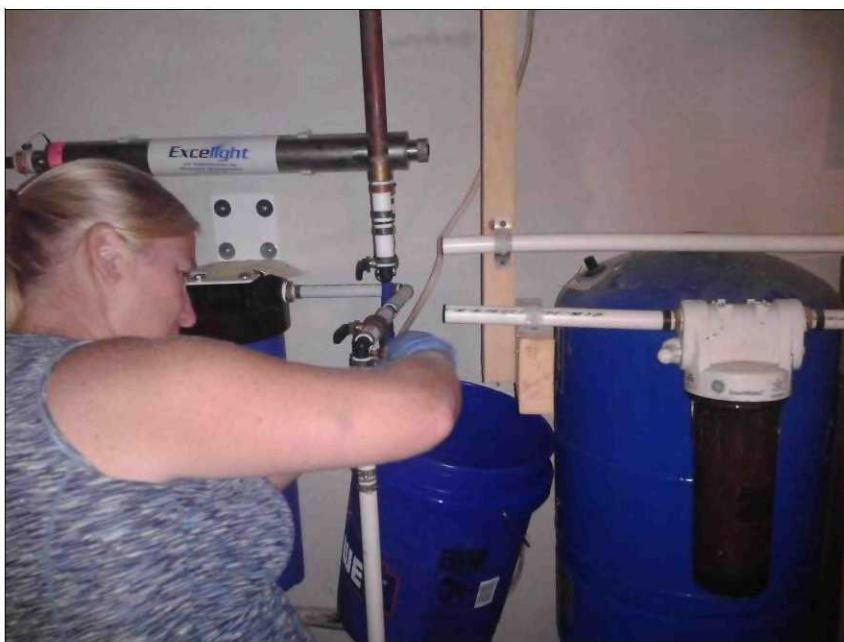


Photograph No. 1: AMEC personnel collecting pre-IRM filtration system sample from spigot at wellhead.

Date: July 8, 2013

Location: 26 Moriah Lane

Photographer: Ryan Stubbs (OTIE)



Photograph No. 2: AMEC personnel collecting pre-IRM filtration system sample from sample port.

Date: July 9, 2013

Location: 105 Russet Lane

Photographer: Ryan Stubbs (OTIE)



Photograph No. 3: AMEC collecting water quality parameters.

Date: July 10, 2013

Location: 9 Forest Run Drive

Photographer: Ryan Stubbs (OTIE)

APPENDIX C

LABORATORY ANALYTICAL REPORTS

July 16, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on July 08, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



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(704)875-9092

CERTIFICATIONS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92164131001	TB-01-03	Water	07/08/13 00:00	07/08/13 16:48
92164131002	FD-01-03	Water	07/08/13 07:00	07/08/13 16:48
92164131003	PW-086A-03	Water	07/08/13 13:40	07/08/13 16:48
92164131004	PW-086B-03	Water	07/08/13 13:45	07/08/13 16:48
92164131005	PW-071A-03	Water	07/08/13 14:25	07/08/13 16:48
92164131006	PW-071B-03	Water	07/08/13 14:30	07/08/13 16:48
92164131007	PW-155A-03	Water	07/08/13 15:15	07/08/13 16:48
92164131008	PW-155B-03	Water	07/08/13 15:20	07/08/13 16:48
92164131009	PW-134A-03	Water	07/08/13 15:50	07/08/13 16:48
92164131010	PW-134B-03	Water	07/08/13 15:55	07/08/13 16:48

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SAMPLE ANALYTE COUNT

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92164131001	TB-01-03	EPA 8260	MCK	12	PASI-C
92164131002	FD-01-03	EPA 8260	MCK	12	PASI-C
92164131003	PW-086A-03	EPA 8260	MCK	12	PASI-C
92164131004	PW-086B-03	EPA 8260	MCK	12	PASI-C
92164131005	PW-071A-03	EPA 8260	MCK	12	PASI-C
92164131006	PW-071B-03	EPA 8260	MCK	12	PASI-C
92164131007	PW-155A-03	EPA 8260	MCK	12	PASI-C
92164131008	PW-155B-03	EPA 8260	MCK	12	PASI-C
92164131009	PW-134A-03	EPA 8260	MCK	12	PASI-C
92164131010	PW-134B-03	EPA 8260	MCK	12	PASI-C

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PROJECT NARRATIVE

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: July 16, 2013

General Information:

10 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: TB-01-03 Lab ID: 92164131001 Collected: 07/08/13 00:00 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 09:56	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 09:56	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 09:56	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 09:56	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 09:56	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 09:56	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 09:56	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 09:56	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/13/13 09:56	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		07/13/13 09:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		07/13/13 09:56	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/13/13 09:56	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: FD-01-03 Lab ID: 92164131002 Collected: 07/08/13 07:00 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 10:11	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 10:11	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 10:11	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 10:11	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 10:11	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 10:11	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 10:11	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 10:11	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/13/13 10:11	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/13/13 10:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		70-130		1		07/13/13 10:11	17060-07-0	
Toluene-d8 (S)	96 %		70-130		1		07/13/13 10:11	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-086A-03	Lab ID: 92164131003	Collected: 07/08/13 13:40	Received: 07/08/13 16:48	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 12:03	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 12:03	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 12:03	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 12:03	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 12:03	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 12:03	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 12:03	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 12:03	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/13/13 12:03	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/13/13 12:03	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		07/13/13 12:03	17060-07-0	
Toluene-d8 (S)	102 %		70-130		1		07/13/13 12:03	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-086B-03 Lab ID: 92164131004 Collected: 07/08/13 13:45 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/13/13 12:18 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/13/13 12:18 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/13/13 12:18 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/13/13 12:18 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/13/13 12:18 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/13/13 12:18 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/13/13 12:18 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/13/13 12:18 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 95 %		70-130		1		07/13/13 12:18	460-00-4		
Dibromofluoromethane (S) 111 %		70-130		1		07/13/13 12:18	1868-53-7		
1,2-Dichloroethane-d4 (S) 112 %		70-130		1		07/13/13 12:18	17060-07-0		
Toluene-d8 (S) 99 %		70-130		1		07/13/13 12:18	2037-26-5		

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-071A-03	Lab ID: 92164131005	Collected: 07/08/13 14:25	Received: 07/08/13 16:48	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 12:34	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 12:34	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 12:34	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 12:34	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 12:34	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 12:34	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 12:34	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 12:34	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/13/13 12:34	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		07/13/13 12:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/13/13 12:34	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/13/13 12:34	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-071B-03 Lab ID: 92164131006 Collected: 07/08/13 14:30 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 12:50	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 12:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 12:50	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 12:50	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 12:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 12:50	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 12:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 12:50	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		1		07/13/13 12:50	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/13/13 12:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		07/13/13 12:50	17060-07-0	
Toluene-d8 (S)	96 %		70-130		1		07/13/13 12:50	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-155A-03 Lab ID: 92164131007 Collected: 07/08/13 15:15 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 13:05	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 13:05	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 13:05	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 13:05	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 13:05	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 13:05	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 13:05	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 13:05	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/13/13 13:05	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/13/13 13:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/13/13 13:05	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/13/13 13:05	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-155B-03 Lab ID: 92164131008 Collected: 07/08/13 15:20 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 13:21	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 13:21	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 13:21	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 13:21	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 13:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 13:21	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 13:21	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 13:21	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		07/13/13 13:21	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		07/13/13 13:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/13/13 13:21	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/13/13 13:21	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-134A-03 Lab ID: 92164131009 Collected: 07/08/13 15:50 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/13/13 13:37 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/13/13 13:37 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/13/13 13:37 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/13/13 13:37 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/13/13 13:37 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/13/13 13:37 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/13/13 13:37 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/13/13 13:37 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 94 % 70-130 1 07/13/13 13:37 460-00-4									
Dibromofluoromethane (S) 108 % 70-130 1 07/13/13 13:37 1868-53-7									
1,2-Dichloroethane-d4 (S) 109 % 70-130 1 07/13/13 13:37 17060-07-0									
Toluene-d8 (S) 97 % 70-130 1 07/13/13 13:37 2037-26-5									

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Sample: PW-134B-03 Lab ID: 92164131010 Collected: 07/08/13 15:55 Received: 07/08/13 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 13:52	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 13:52	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 13:52	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 13:52	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 13:52	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 13:52	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 13:52	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 13:52	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/13/13 13:52	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		07/13/13 13:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/13/13 13:52	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/13/13 13:52	2037-26-5	

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006

Pace Project No.: 92164131

QC Batch:	MSV/23610	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92164131001, 92164131002, 92164131003, 92164131004, 92164131005, 92164131006, 92164131007, 92164131008, 92164131009, 92164131010		

METHOD BLANK: 1009381 Matrix: Water

Associated Lab Samples: 92164131001, 92164131002, 92164131003, 92164131004, 92164131005, 92164131006, 92164131007,
92164131008, 92164131009, 92164131010

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/13/13 09:24	
1,1-Dichloroethene	ug/L	ND	1.0	07/13/13 09:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 09:24	
Tetrachloroethene	ug/L	ND	1.0	07/13/13 09:24	
Toluene	ug/L	ND	1.0	07/13/13 09:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 09:24	
Trichloroethene	ug/L	ND	1.0	07/13/13 09:24	
Vinyl chloride	ug/L	ND	1.0	07/13/13 09:24	
1,2-Dichloroethane-d4 (S)	%	107	70-130	07/13/13 09:24	
4-Bromofluorobenzene (S)	%	96	70-130	07/13/13 09:24	
Dibromofluoromethane (S)	%	104	70-130	07/13/13 09:24	
Toluene-d8 (S)	%	98	70-130	07/13/13 09:24	

LABORATORY CONTROL SAMPLE: 1009382

Parameter	Units	Spike	LCS		% Rec		% Rec Limits	Qualifiers
		Conc.	Result	% Rec	Limits			
1,1,1-Trichloroethane	ug/L	50	49.3	99	70-130			
1,1-Dichloroethene	ug/L	50	47.6	95	70-132			
cis-1,2-Dichloroethene	ug/L	50	48.0	96	70-131			
Tetrachloroethene	ug/L	50	47.8	96	70-130			
Toluene	ug/L	50	48.0	96	70-130			
trans-1,2-Dichloroethene	ug/L	50	46.9	94	70-130			
Trichloroethene	ug/L	50	45.5	91	70-130			
Vinyl chloride	ug/L	50	55.2	110	69-130			
1,2-Dichloroethane-d4 (S)	%			111	70-130			
4-Bromofluorobenzene (S)	%			95	70-130			
Dibromofluoromethane (S)	%			102	70-130			
Toluene-d8 (S)	%			100	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1009383 1009384

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max		
		92164131003	Spike Conc.	Spike Conc.	MS Result				RPD	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	65.4	68.4	131	137	70-166	5	30
Toluene	ug/L	ND	50	50	57.2	56.6	114	113	70-155	1	30
Trichloroethene	ug/L	ND	50	50	61.6	62.1	123	124	69-151	1	30
1,2-Dichloroethane-d4 (S)	%						106	109	70-130		
4-Bromofluorobenzene (S)	%						96	93	70-130		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			1009383		1009384							
Parameter	Units	Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Limits	Max
			Spike Conc.	Spike Conc.								RPD
Dibromofluoromethane (S)	%							105		109	70-130	
Toluene-d8 (S)	%							102		97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			1009419		1009420							
Parameter	Units	Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Limits	Max
			Spike Conc.	Spike Conc.								RPD
1,1-Dichloroethene	ug/L	ND	50	50	61.7	62.4	123	125	70-166	1	30	
Toluene	ug/L	ND	50	50	56.0	56.9	112	114	70-155	1	30	
Trichloroethene	ug/L	ND	50	50	59.1	61.1	118	122	69-151	3	30	
1,2-Dichloroethane-d4 (S)	%						91	92	70-130			
4-Bromofluorobenzene (S)	%						96	95	70-130			
Dibromofluoromethane (S)	%						96	95	70-130			
Toluene-d8 (S)	%						98	97	70-130			

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QUALIFIERS

Project: CTS of Asheville 6252120006
 Pace Project No.: 92164131

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS of Asheville 6252120006
Pace Project No.: 92164131

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92164131001	TB-01-03	EPA 8260	MSV/23610		
92164131002	FD-01-03	EPA 8260	MSV/23610		
92164131003	PW-086A-03	EPA 8260	MSV/23610		
92164131004	PW-086B-03	EPA 8260	MSV/23610		
92164131005	PW-071A-03	EPA 8260	MSV/23610		
92164131006	PW-071B-03	EPA 8260	MSV/23610		
92164131007	PW-155A-03	EPA 8260	MSV/23610		
92164131008	PW-155B-03	EPA 8260	MSV/23610		
92164131009	PW-134A-03	EPA 8260	MSV/23610		
92164131010	PW-134B-03	EPA 8260	MSV/23610		

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Document Name: Sample Condition Upon

Document Revised: March 13, 2013

Receipt (SCUR)

Page 1 of 2

Document No.:

Issuing Authorities:

F-ASV-CS-003-rev.09

Pace Asheville Quality Office

Client Name: AMECWhere Received: Huntersville Asheville Eden RaleighCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None Other _____Circle Thermometer Used: IR Gun#2 -80344039 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
IR Gun Back Up- 111565135Temp Correction Factor: Add Subtract 0.1 CCorrected Cooler Temp.: 4.3 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining
contents: 7/9/13

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>In 1</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	<u>9w</u>	Date:	<u>7/9/13</u>
SRF Review:	<u>JY</u>	Date:	<u>7/9/13</u>

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92164131



92164131



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice information:		Page: _____ of _____				
Company: AMEC	Report To: Susan Kelly	Attention: Susan Kelly			1686014					
Address: 1308 Patton Ave Asheville NC 28806	Copy To:	Company Name: AMEC	REGULATORY AGENCY							
Email To: susan.kelly@amec.com	Purchase Order No.: CO12101936	Address: 1308 Patton Ave, Asheville	<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER					
Phone: 828 2528130	Project Name: CTS of Asheville	Pace Quote Reference:	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER					
Requested Due Date/TAT:	Project Number: 10252120006	Pace Project Manager: Kevin Goodwin	Site Location		STATE: NC					
Pace Profile #: 3900-3			Requested Analysis Filtered (Y/N)							
Section D Required Client Information		COLLECTED		Preservatives						
ITEM #	SAMPLE ID (A-Z, 0-9, -,) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB, C=COMB)	# OF CONTAINERS		Y/N	Residual Chlorine (Y/N)			
				COMPOSITE START	COMPOSITE END/GRAB					
1	TB-01-03	WTG	G	1/8/13 16:00	1/8/13 16:00	Unpreserved	X			
2	FD-01-03	WTG	G	1/8/13 09:00	1/8/13 09:00	H ₂ SO ₄	X			
3	PW-0864-03	WTG	G	1/8/13 13:40	1/8/13 13:40	HNO ₃	X			
4	PW-086B-03	WTG	G	1/8/13 13:45	1/8/13 13:45	HCl	X			
5	PW-071A-03	WTG	G	1/8/13 14:25	1/8/13 14:25	NaOH	X			
6	PW-071B-03	WTG	G	1/8/13 14:30	1/8/13 14:30	Na ₂ S ₂ O ₃	X			
7	PW-155A-03	WTG	G	1/8/13 15:15	1/8/13 15:15	Methanol	X			
8	PW-155B-03	WTG	G	1/8/13 15:20	1/8/13 15:20	Other	X			
9	PW-134A-03	WTG	G	1/8/13 15:50	1/8/13 15:50		X			
10	PW-134B-03	WTG	G	1/8/13 15:55	1/8/13 15:55		X			
11										
12										
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
*Size-Specific Compound List		Susan Kelly / AMEC		1/8/13	16:48	Susan Kelly	1/8/13	16:48	4.3	> -X >
ORIGINAL		SAMPLER NAME AND SIGNATURE								
		PRINT Name of SAMPLER:		SUSAN KELLY				Temp in °C		
		SIGNATURE of SAMPLER:		Susan Kelly				Received on Ice (Y/N)		
				DATE Signed (MM/DD/YY):		7/08/13		Custody Sealed/Carter (Y/N)		
								Sample intact (Y/N)		

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

TABLE 1
Target Compounds and Reporting Limits
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Analyte	CAS Number	PQL	MDL	Comparison Value (basis)
1,1-Dichloroethene	75-35-4	1	0.56	7 (MCL)
cis-1,2-Dichloroethene	156-59-2	1	0.19	70 (MCL)
trans-1,2-Dichloroethene	156-60-5	1	0.49	100 (MCL)
Tetrachloroethene	127-18-4	1	0.46	5 (MCL)
1,1,1-Trichloroethane	71-55-6	1	0.48	200 (MCL)
Trichloroethylene	79-01-6	1	0.47	5 (MCL)
Vinyl chloride	75-01-4	1	0.62	2 (MCL)

Notes:

CAS - Chemical Abstracts Service

PQL - Pratical Quantitative Limit

MDL - Method Detection Limit

MCL - Maximum Contaminant Level

Concentrations are in micrograms per liter ($\mu\text{g/L}$)

Prepared By: SEK 8/22/12

Checked By: LRD 8/22/12

+ Toluene per Susan Kelly (1-2-13).

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July 17, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on July 09, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: CTS Asheville 6252120006
 Pace Project No.: 92164372

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92164372001	TB-02-03	Water	07/09/13 00:00	07/09/13 16:49
92164372002	FD-02-03	Water	07/09/13 00:00	07/09/13 16:49
92164372003	FD-03-03	Water	07/09/13 00:00	07/09/13 16:49
92164372004	PW-137A-03	Water	07/09/13 08:50	07/09/13 16:49
92164372005	PW-137B-03	Water	07/09/13 08:55	07/09/13 16:49
92164372006	PW-090-03	Water	07/09/13 09:25	07/09/13 16:49
92164372007	PW-150A-03	Water	07/09/13 10:05	07/09/13 16:49
92164372008	PW-150B-03	Water	07/09/13 10:10	07/09/13 16:49
92164372009	PW-023A-03	Water	07/09/13 10:45	07/09/13 16:49
92164372010	PW-023B-03	Water	07/09/13 10:50	07/09/13 16:49
92164372011	PW-110A-03	Water	07/09/13 12:25	07/09/13 16:49
92164372012	PW-110B-03	Water	07/09/13 12:30	07/09/13 16:49
92164372013	PW-112A-03	Water	07/09/13 13:20	07/09/13 16:49
92164372014	PW-112B-03	Water	07/09/13 13:25	07/09/13 16:49
92164372015	PW-059A-03	Water	07/09/13 14:05	07/09/13 16:49
92164372016	PW-059B-03	Water	07/09/13 14:10	07/09/13 16:49
92164372017	PW-053A-03	Water	07/09/13 14:45	07/09/13 16:49
92164372018	PW-053B-03	Water	07/09/13 14:50	07/09/13 16:49
92164372019	PW-129A-03	Water	07/09/13 16:15	07/09/13 16:49
92164372020	PW-129B-03	Water	07/09/13 16:20	07/09/13 16:49

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SAMPLE ANALYTE COUNT

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92164372001	TB-02-03	EPA 8260	MCK	12	PASI-C
92164372002	FD-02-03	EPA 8260	MCK	12	PASI-C
92164372003	FD-03-03	EPA 8260	MCK	12	PASI-C
92164372004	PW-137A-03	EPA 8260	MCK	12	PASI-C
92164372005	PW-137B-03	EPA 8260	MCK	12	PASI-C
92164372006	PW-090-03	EPA 8260	MCK	12	PASI-C
92164372007	PW-150A-03	EPA 8260	MCK	12	PASI-C
92164372008	PW-150B-03	EPA 8260	MCK	12	PASI-C
92164372009	PW-023A-03	EPA 8260	MCK	12	PASI-C
92164372010	PW-023B-03	EPA 8260	MCK	12	PASI-C
92164372011	PW-110A-03	EPA 8260	MCK	12	PASI-C
92164372012	PW-110B-03	EPA 8260	MCK	12	PASI-C
92164372013	PW-112A-03	EPA 8260	MCK	12	PASI-C
92164372014	PW-112B-03	EPA 8260	MCK	12	PASI-C
92164372015	PW-059A-03	EPA 8260	MCK	12	PASI-C
92164372016	PW-059B-03	EPA 8260	MCK	12	PASI-C
92164372017	PW-053A-03	EPA 8260	MCK	12	PASI-C
92164372018	PW-053B-03	EPA 8260	MCK	12	PASI-C
92164372019	PW-129A-03	EPA 8260	MCK	12	PASI-C
92164372020	PW-129B-03	EPA 8260	MCK	12	PASI-C

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PROJECT NARRATIVE

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: July 17, 2013

General Information:

20 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/23621

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1009826)
- Vinyl chloride

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: TB-02-03	Lab ID: 92164372001	Collected: 07/09/13 00:00	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 22:33	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 22:33	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 22:33	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 22:33	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 22:33	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 22:33	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 22:33	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 22:33	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		07/13/13 22:33	460-00-4	
Dibromofluoromethane (S)	112 %		70-130		1		07/13/13 22:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/13/13 22:33	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/13/13 22:33	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: FD-02-03 Lab ID: 92164372002 Collected: 07/09/13 00:00 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 22:49	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 22:49	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 22:49	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 22:49	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 22:49	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 22:49	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 22:49	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 22:49	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/13/13 22:49	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		07/13/13 22:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		07/13/13 22:49	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/13/13 22:49	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: FD-03-03	Lab ID: 92164372003	Collected: 07/09/13 00:00	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 23:05	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 23:05	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 23:05	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 23:05	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 23:05	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 23:05	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 23:05	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 23:05	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/13/13 23:05	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/13/13 23:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		70-130		1		07/13/13 23:05	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/13/13 23:05	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-137A-03 Lab ID: 92164372004 Collected: 07/09/13 08:50 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 23:22	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 23:22	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 23:22	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 23:22	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 23:22	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 23:22	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 23:22	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 23:22	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/13/13 23:22	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/13/13 23:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		70-130		1		07/13/13 23:22	17060-07-0	
Toluene-d8 (S)	103 %		70-130		1		07/13/13 23:22	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-137B-03	Lab ID: 92164372005	Collected: 07/09/13 08:55	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 23:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 23:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 23:37	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 23:37	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 23:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 23:37	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 23:37	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 23:37	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/13/13 23:37	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/13/13 23:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		07/13/13 23:37	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/13/13 23:37	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-090-03	Lab ID: 92164372006	Collected: 07/09/13 09:25	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/13/13 23:53	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/13/13 23:53	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/13/13 23:53	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/13/13 23:53	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/13/13 23:53	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/13/13 23:53	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/13/13 23:53	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/13/13 23:53	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/13/13 23:53	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/13/13 23:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/13/13 23:53	17060-07-0	
Toluene-d8 (S)	102 %		70-130		1		07/13/13 23:53	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-150A-03	Lab ID: 92164372007	Collected: 07/09/13 10:05	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 00:08	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 00:08	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 00:08	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 00:08	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 00:08	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 00:08	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 00:08	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 00:08	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 00:08	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/14/13 00:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		70-130		1		07/14/13 00:08	17060-07-0	
Toluene-d8 (S)	102 %		70-130		1		07/14/13 00:08	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-150B-03 Lab ID: 92164372008 Collected: 07/09/13 10:10 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 00:24	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 00:24	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 00:24	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 00:24	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 00:24	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 00:24	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 00:24	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 00:24	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/14/13 00:24	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		07/14/13 00:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		70-130		1		07/14/13 00:24	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/14/13 00:24	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-023A-03 Lab ID: 92164372009 Collected: 07/09/13 10:45 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 00:40	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 00:40	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 00:40	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 00:40	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 00:40	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 00:40	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 00:40	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 00:40	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		07/14/13 00:40	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		07/14/13 00:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/14/13 00:40	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		07/14/13 00:40	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-023B-03 Lab ID: 92164372010 Collected: 07/09/13 10:50 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 00:56	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 00:56	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 00:56	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 00:56	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 00:56	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 00:56	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 00:56	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 00:56	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/14/13 00:56	460-00-4	
Dibromofluoromethane (S)	113 %		70-130		1		07/14/13 00:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		07/14/13 00:56	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		07/14/13 00:56	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-110A-03	Lab ID: 92164372011	Collected: 07/09/13 12:25	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 01:11	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 01:11	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 01:11	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 01:11	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 01:11	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 01:11	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 01:11	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 01:11	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 01:11	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		07/14/13 01:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/14/13 01:11	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		07/14/13 01:11	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-110B-03 Lab ID: 92164372012 Collected: 07/09/13 12:30 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 01:27	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 01:27	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 01:27	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 01:27	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 01:27	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 01:27	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 01:27	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 01:27	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	92 %		70-130		1		07/14/13 01:27	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/14/13 01:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/14/13 01:27	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/14/13 01:27	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-112A-03	Lab ID: 92164372013	Collected: 07/09/13 13:20	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 01:43	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 01:43	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 01:43	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 01:43	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 01:43	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 01:43	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 01:43	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 01:43	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	93 %		70-130		1		07/14/13 01:43	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/14/13 01:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/14/13 01:43	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/14/13 01:43	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-112B-03 Lab ID: 92164372014 Collected: 07/09/13 13:25 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 01:59	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 01:59	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 01:59	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 01:59	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 01:59	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 01:59	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 01:59	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 01:59	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/14/13 01:59	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/14/13 01:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/14/13 01:59	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		07/14/13 01:59	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-059A-03	Lab ID: 92164372015	Collected: 07/09/13 14:05	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 02:15	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 02:15	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 02:15	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 02:15	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 02:15	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 02:15	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 02:15	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 02:15	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 02:15	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/14/13 02:15	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		07/14/13 02:15	17060-07-0	
Toluene-d8 (S)	102 %		70-130		1		07/14/13 02:15	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-059B-03 Lab ID: 92164372016 Collected: 07/09/13 14:10 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 02:30 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 02:30 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 02:30 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 02:30 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 02:30 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 02:30 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 02:30 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 02:30 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 98 % 70-130 1 07/14/13 02:30 460-00-4									
Dibromofluoromethane (S) 107 % 70-130 1 07/14/13 02:30 1868-53-7									
1,2-Dichloroethane-d4 (S) 109 % 70-130 1 07/14/13 02:30 17060-07-0									
Toluene-d8 (S) 98 % 70-130 1 07/14/13 02:30 2037-26-5									

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-053A-03	Lab ID: 92164372017	Collected: 07/09/13 14:45	Received: 07/09/13 16:49	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 02:46	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 02:46	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 02:46	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 02:46	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 02:46	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 02:46	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 02:46	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 02:46	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 02:46	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/14/13 02:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		07/14/13 02:46	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/14/13 02:46	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-053B-03 Lab ID: 92164372018 Collected: 07/09/13 14:50 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 03:02	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 03:02	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 03:02	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 03:02	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 03:02	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 03:02	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 03:02	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 03:02	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		1		07/14/13 03:02	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/14/13 03:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/14/13 03:02	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/14/13 03:02	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-129A-03 Lab ID: 92164372019 Collected: 07/09/13 16:15 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 03:18 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 03:18 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 03:18 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 03:18 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 03:18 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 03:18 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 03:18 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 03:18 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 98 % 70-130 1 07/14/13 03:18 460-00-4									
Dibromofluoromethane (S) 107 % 70-130 1 07/14/13 03:18 1868-53-7									
1,2-Dichloroethane-d4 (S) 109 % 70-130 1 07/14/13 03:18 17060-07-0									
Toluene-d8 (S) 100 % 70-130 1 07/14/13 03:18 2037-26-5									

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ANALYTICAL RESULTS

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

Sample: PW-129B-03 Lab ID: 92164372020 Collected: 07/09/13 16:20 Received: 07/09/13 16:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 03:33 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 03:33 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 03:33 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 03:33 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 03:33 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 03:33 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 03:33 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 03:33 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 97 % 70-130 1 07/14/13 03:33 460-00-4									
Dibromofluoromethane (S) 108 % 70-130 1 07/14/13 03:33 1868-53-7									
1,2-Dichloroethane-d4 (S) 111 % 70-130 1 07/14/13 03:33 17060-07-0									
Toluene-d8 (S) 98 % 70-130 1 07/14/13 03:33 2037-26-5									

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QUALITY CONTROL DATA

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

QC Batch:	MSV/23621	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92164372001, 92164372002, 92164372003, 92164372004, 92164372005, 92164372006, 92164372007, 92164372008, 92164372009, 92164372010, 92164372011, 92164372012, 92164372013, 92164372014, 92164372015, 92164372016, 92164372017, 92164372018, 92164372019, 92164372020		

METHOD BLANK: 1009825 Matrix: Water

Associated Lab Samples: 92164372001, 92164372002, 92164372003, 92164372004, 92164372005, 92164372006, 92164372007, 92164372008, 92164372009, 92164372010, 92164372011, 92164372012, 92164372013, 92164372014, 92164372015, 92164372016, 92164372017, 92164372018, 92164372019, 92164372020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/13/13 22:18	
1,1-Dichloroethene	ug/L	ND	1.0	07/13/13 22:18	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 22:18	
Tetrachloroethene	ug/L	ND	1.0	07/13/13 22:18	
Toluene	ug/L	ND	1.0	07/13/13 22:18	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 22:18	
Trichloroethene	ug/L	ND	1.0	07/13/13 22:18	
Vinyl chloride	ug/L	ND	1.0	07/13/13 22:18	
1,2-Dichloroethane-d4 (S)	%	110	70-130	07/13/13 22:18	
4-Bromofluorobenzene (S)	%	95	70-130	07/13/13 22:18	
Dibromofluoromethane (S)	%	108	70-130	07/13/13 22:18	
Toluene-d8 (S)	%	99	70-130	07/13/13 22:18	

LABORATORY CONTROL SAMPLE: 1009826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	55.4	111	70-130	
1,1-Dichloroethene	ug/L	50	57.0	114	70-132	
cis-1,2-Dichloroethene	ug/L	50	52.4	105	70-131	
Tetrachloroethene	ug/L	50	54.3	109	70-130	
Toluene	ug/L	50	53.2	106	70-130	
trans-1,2-Dichloroethene	ug/L	50	54.3	109	70-130	
Trichloroethene	ug/L	50	52.8	106	70-130	
Vinyl chloride	ug/L	50	66.6	133	69-130 L3	
1,2-Dichloroethane-d4 (S)	%			113	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1009827 1009828

Parameter	Units	92164372004 Result	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	Max	RPD	RPD	Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits				
1,1-Dichloroethene	ug/L	ND	50	50	68.0	69.9	136	140	70-166	3	30		
Toluene	ug/L	ND	50	50	56.9	56.0	114	112	70-155	2	30		
Trichloroethene	ug/L	ND	50	50	61.5	61.2	123	122	69-151	1	30		

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QUALITY CONTROL DATA

Project: CTS Asheville 6252120006
Pace Project No.: 92164372

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			1009827		1009828							
Parameter	Units	92164372004	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
1,2-Dichloroethane-d4 (S)	%						109	109	70-130			
4-Bromofluorobenzene (S)	%						95	95	70-130			
Dibromofluoromethane (S)	%						111	110	70-130			
Toluene-d8 (S)	%						100	99	70-130			

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CTS Asheville 6252120006
 Pace Project No.: 92164372

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS Asheville 6252120006
 Pace Project No.: 92164372

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92164372001	TB-02-03	EPA 8260	MSV/23621		
92164372002	FD-02-03	EPA 8260	MSV/23621		
92164372003	FD-03-03	EPA 8260	MSV/23621		
92164372004	PW-137A-03	EPA 8260	MSV/23621		
92164372005	PW-137B-03	EPA 8260	MSV/23621		
92164372006	PW-090-03	EPA 8260	MSV/23621		
92164372007	PW-150A-03	EPA 8260	MSV/23621		
92164372008	PW-150B-03	EPA 8260	MSV/23621		
92164372009	PW-023A-03	EPA 8260	MSV/23621		
92164372010	PW-023B-03	EPA 8260	MSV/23621		
92164372011	PW-110A-03	EPA 8260	MSV/23621		
92164372012	PW-110B-03	EPA 8260	MSV/23621		
92164372013	PW-112A-03	EPA 8260	MSV/23621		
92164372014	PW-112B-03	EPA 8260	MSV/23621		
92164372015	PW-059A-03	EPA 8260	MSV/23621		
92164372016	PW-059B-03	EPA 8260	MSV/23621		
92164372017	PW-053A-03	EPA 8260	MSV/23621		
92164372018	PW-053B-03	EPA 8260	MSV/23621		
92164372019	PW-129A-03	EPA 8260	MSV/23621		
92164372020	PW-129B-03	EPA 8260	MSV/23621		

REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: March 13, 2013
Page 1 of 2

Document No.: F-ASV-CS-003-rev.09

Issuing Authorities:
Pace Asheville Quality OfficeClient Name: AMECWhere Received: Huntersville Asheville Eden RaleighCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None Other _____Circle Thermometer Used: IR Gun #2-80344039 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
IR Gun Back Up- 111565135Temp Correction Factor: Add / Subtract -0.1 CCorrected Cooler Temp.: 3.3 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C Comments: _____

Date and Initials of person examining contents: La 7/10/13

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	<u>1/10/13</u>	Date: <u>7/10/13</u>
SRF Review:	<u>1/10/13</u>	Date: <u>7/10/13</u>

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92164372



92164372

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a **LEGAL DOCUMENT**. All relevant fields must be completed accurately.

Section A
 Required Client Information:

Company: **AMEC**
 Address: **1308 Patton Ave
Asheville NC 28806**
 Email To: **Susan.kelly@amec.com**
 Phone: **8282528130** Fax: **8282528130**
 Requested Due Date/TAT: **Std.**

Section B
 Required Project Information:

Report To: **Susan Kelly**
 Copy To:
 Purchase Order No.: **C012101936**
 Project Name: **CTS of Asheville**
 Project Number: **6252120006**

Section C
 Invoice Information:

Attention: **Susan Kelly**
 Company Name: **AMEC**
 Address: **1308 Patton Ave, Asheville**
 Pace Quote Reference:
 Pace Project Manager: **Kevin Godwin**
 Pace Profile #:

 Page: **1** of **2**
1686013
REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

 Site Location
 STATE: **NC**
Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Matrix Codes <u>MATRIX / CODE</u>	MATRIX CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Analysis Test ↓	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
				SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START	COMPOSITE END/GRAB	DATE								
		Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	DW WT WW P SL OL WP AR TS OT							H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other					
1	T.B-02-03	WT G	N/A N/A			Lab prep			2		X			001	
2	FD-02-03	WT G		1	7/9/13 00:00				3		X			002	
3	FD-03-03	WT G		1	7/9/13 00:00				3		X			003	
4	PW-137A-03	WT G			7/9/13 8:50				3		X			004	
5	PW-137B-03	WT G			7/9/13 8:55				3		X			005	
6	PW-090-03	WT G			7/9/13 9:25				3		X			006	
7	PW-150A-03	WT G			7/9/13 10:05				3		X			007	
8	PW-150B-03	WT G			7/9/13 10:10				3		X			008	
9	PW-023A-03	WT G			7/9/13 10:45				3		X			009	
10	PW-023B-03	WT G			7/9/13 10:56				3		X			010	
11	PW-110A-03	WT G	✓	✓	7/9/13 12:25				3		X			011	
12	PW-110B-03	WT G	N/A	✓	7/9/13 12:30				3		X			012	
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION			DATE	TIME	ACCEPTED BY / AFFILIATION			DATE	TIME	SAMPLE CONDITIONS		
<i>*site-specific compound list</i>			<i>Amankelly/AMEC</i>			7/9/13	16:49	<i>Joseph Shaver</i>			7/13/164933	3:33	Y	Y	Y

SAMPLER NAME AND SIGNATURE

 PRINT Name of SAMPLER: **SUSAN KELLY**

 SIGNATURE of SAMPLER: *Susan Kelly*

 DATE Signed
(MM/DD/YY): **07/09/13**

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)



Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: March 13, 2013
Page 1 of 2

Document No.: F-ASV-CS-003-rev.09

Issuing Authorities:
Pace Asheville Quality OfficeClient Name: AMECWhere Received: Huntersville Asheville Eden RaleighCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None Other _____Circle Thermometer Used: IR Gun#2 -80344039 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
IR Gun Back Up- 111565135Temp Correction Factor: Add / Subtract 0.1 CCorrected Cooler Temp.: 33 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C Comments: _____

Date and Initials of person examining contents: 6/3/13

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>in T</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exception: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:		Date:	
SRF Review:	<u>YH</u>	Date:	<u>7/10/13</u>

Place label here

92164372

OR

Handwrite project number
(if no label available)

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company: AMEC
Address: 1308 Patton Ave.
Asheville NC 28806
Email To: Susan Kelly Pamclum
Phone: 8282528130 Fax:
Requested Due Date/TAT: Std.

Section B
Required Project Information:

Report To: Susan Kelly
Copy To:
Purchase Order No.: CO12101936
Project Name: LTS of Asheville
Project Number: 6252120006

Section C
Invoice Information:

Attention: Susan Kelly
Company Name: AMEC
Address: 1308 Patton Ave, Asheville
Pace Quote Reference:
Pace Project Manager: Kevin Godwin
Pace Profile #:

Page: 2 of 2

1686012

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

Site Location

STATE:

NC

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Matrix Codes <u>MATRIX / CODE</u> SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↓ Y/N 82100 VCL 5%	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				SAMPLE TYPE (G=GRAB C=COMP)		COMPOSITE START	COMPOSITE END/GRAB						
				DATE	TIME	DATE	TIME						
1	PW-112A-03	WT G N/A N/A	WT G	7/9/13	13:20	3			Unpreserved	H ₂ SO ₄	X	X	013
2	PW-112B-03	WT G	WT G	7/9/13	13:25	3				HNO ₃	X	X	014
3	PW-059A-03	WT G	WT G	7/9/13	14:05	3				HCl	X	X	015
4	PW-059B-03	WT G	WT G	7/9/13	14:10	3				NaOH		X	016
5	PW-053A-03	WT G	WT G	7/9/13	14:45	3				Na ₂ S ₂ O ₃		X	017
6	PW-053B-03	WT G	WT G	7/9/13	14:50	3				Methanol		X	018
7	PW-129A-03	WT G	WT G	7/9/13	16:15	3				Other		X	019
8	PW-129B-03	WT G	WT G	7/9/13	16:20	3						X	020
9													
10													
11													
12													
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS		
*site-specific compound list			Annabelly AMEC		7/9/13	16:49	Joseph Stern		7/9/13	16:49	3.3	Y	Y
ORIGINAL SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <u>SUSAN KELLY</u> SIGNATURE of SAMPLER: <u>Annabelly</u> DATE Signed (MM/DD/YY): <u>07/09/13</u>													

TABLE 1
Target Compounds and Reporting Limits
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Analyte	CAS Number	PQL	MDL	Comparison Value (basis)
1,1-Dichloroethene	75-35-4	1	0.56	7 (MCL)
cis-1,2-Dichloroethene	156-59-2	1	0.19	70 (MCL)
trans-1,2-Dichloroethene	156-60-5	1	0.49	100 (MCL)
Tetrachloroethene	127-18-4	1	0.46	5 (MCL)
1,1,1-Trichloroethane	71-55-6	1	0.48	200 (MCL)
Trichloroethene	79-01-6	1	0.47	5 (MCL)
Vinyl chloride	75-01-4	1	0.62	2 (MCL)

Notes:

CAS - Chemical Abstracts Service

Prepared By: SEK 8/22/12

PQL - Pratical Quantitative Limit

Checked By: LRD 8/22/12

MDL - Method Detection Limit

MCL - Maximum Contaminant Level

Concentrations are in micrograms per liter ($\mu\text{g/L}$)

+ Toluene per Susan Kelly (1-2-13).

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

July 17, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92164577001	TB-03-03	Water	07/10/13 00:00	07/10/13 15:31
92164577002	FD-04-03	Water	07/10/13 00:00	07/10/13 15:31
92164577003	PW-124-03	Water	07/10/13 09:00	07/10/13 15:31
92164577004	PW-096A-03	Water	07/10/13 09:50	07/10/13 15:31
92164577005	PW-096B-03	Water	07/10/13 09:55	07/10/13 15:31
92164577006	PW-111A-03	Water	07/10/13 10:30	07/10/13 15:31
92164577007	PW-111B-03	Water	07/10/13 10:35	07/10/13 15:31
92164577008	PW-041-03	Water	07/10/13 11:10	07/10/13 15:31
92164577009	PW-045A-03	Water	07/10/13 12:50	07/10/13 15:31
92164577010	PW-045B-03	Water	07/10/13 12:55	07/10/13 15:31
92164577011	PW-154A-03	Water	07/10/13 13:45	07/10/13 15:31
92164577012	PW-154B-03	Water	07/10/13 13:50	07/10/13 15:31
92164577013	PW-152A-03	Water	07/10/13 14:40	07/10/13 15:31
92164577014	PW-152B-03	Water	07/10/13 14:45	07/10/13 15:31

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92164577001	TB-03-03	EPA 8260	MCK	12	PASI-C
92164577002	FD-04-03	EPA 8260	MCK	12	PASI-C
92164577003	PW-124-03	EPA 8260	MCK	12	PASI-C
92164577004	PW-096A-03	EPA 8260	MCK	12	PASI-C
92164577005	PW-096B-03	EPA 8260	MCK	12	PASI-C
92164577006	PW-111A-03	EPA 8260	MCK	12	PASI-C
92164577007	PW-111B-03	EPA 8260	MCK	12	PASI-C
92164577008	PW-041-03	EPA 8260	MCK	12	PASI-C
92164577009	PW-045A-03	EPA 8260	MCK	12	PASI-C
92164577010	PW-045B-03	EPA 8260	MCK	12	PASI-C
92164577011	PW-154A-03	EPA 8260	MCK	12	PASI-C
92164577012	PW-154B-03	EPA 8260	MCK	12	PASI-C
92164577013	PW-152A-03	EPA 8260	MCK	12	PASI-C
92164577014	PW-152B-03	EPA 8260	MCK	12	PASI-C

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: July 17, 2013

General Information:

14 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/23622

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1009830)
- Vinyl chloride

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: TB-03-03	Lab ID: 92164577001	Collected: 07/10/13 00:00	Received: 07/10/13 15:31	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 03:49	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 03:49	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 03:49	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 03:49	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 03:49	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 03:49	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 03:49	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 03:49	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/14/13 03:49	460-00-4	
Dibromofluoromethane (S)	112 %		70-130		1		07/14/13 03:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	115 %		70-130		1		07/14/13 03:49	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		07/14/13 03:49	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: FD-04-03 Lab ID: 92164577002 Collected: 07/10/13 00:00 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 04:05	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 04:05	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 04:05	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 04:05	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 04:05	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 04:05	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 04:05	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 04:05	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/14/13 04:05	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		07/14/13 04:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		07/14/13 04:05	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/14/13 04:05	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-124-03 Lab ID: 92164577003 Collected: 07/10/13 09:00 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 04:21 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 04:21 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 04:21 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 04:21 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 04:21 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 04:21 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 04:21 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 04:21 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 97 %		70-130		1		07/14/13 04:21	460-00-4		
Dibromofluoromethane (S) 109 %		70-130		1		07/14/13 04:21	1868-53-7		
1,2-Dichloroethane-d4 (S) 110 %		70-130		1		07/14/13 04:21	17060-07-0		
Toluene-d8 (S) 101 %		70-130		1		07/14/13 04:21	2037-26-5		

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-096A-03 Lab ID: 92164577004 Collected: 07/10/13 09:50 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 04:36	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 04:36	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 04:36	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 04:36	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 04:36	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 04:36	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 04:36	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 04:36	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/14/13 04:36	460-00-4	
Dibromofluoromethane (S)	112 %		70-130		1		07/14/13 04:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/14/13 04:36	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		07/14/13 04:36	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-096B-03 Lab ID: 92164577005 Collected: 07/10/13 09:55 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 04:52 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 04:52 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 04:52 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 04:52 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 04:52 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 04:52 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 04:52 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 04:52 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 97 %		70-130		1		07/14/13 04:52	460-00-4		
Dibromofluoromethane (S) 112 %		70-130		1		07/14/13 04:52	1868-53-7		
1,2-Dichloroethane-d4 (S) 112 %		70-130		1		07/14/13 04:52	17060-07-0		
Toluene-d8 (S) 98 %		70-130		1		07/14/13 04:52	2037-26-5		

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-111A-03 Lab ID: 92164577006 Collected: 07/10/13 10:30 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 05:08	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 05:08	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 05:08	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 05:08	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 05:08	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 05:08	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 05:08	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 05:08	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/14/13 05:08	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/14/13 05:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	114 %		70-130		1		07/14/13 05:08	17060-07-0	
Toluene-d8 (S)	96 %		70-130		1		07/14/13 05:08	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-111B-03 Lab ID: 92164577007 Collected: 07/10/13 10:35 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 05:24	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 05:24	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 05:24	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 05:24	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 05:24	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 05:24	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 05:24	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 05:24	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/14/13 05:24	460-00-4	
Dibromofluoromethane (S)	116 %		70-130		1		07/14/13 05:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	113 %		70-130		1		07/14/13 05:24	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		07/14/13 05:24	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-041-03	Lab ID: 92164577008	Collected: 07/10/13 11:10	Received: 07/10/13 15:31	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 05:39	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 05:39	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 05:39	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 05:39	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 05:39	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 05:39	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 05:39	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 05:39	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 05:39	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/14/13 05:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/14/13 05:39	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/14/13 05:39	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-045A-03 Lab ID: 92164577009 Collected: 07/10/13 12:50 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 05:55	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 05:55	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 05:55	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 05:55	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 05:55	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 05:55	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 05:55	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 05:55	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/14/13 05:55	460-00-4	
Dibromofluoromethane (S)	115 %		70-130		1		07/14/13 05:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	117 %		70-130		1		07/14/13 05:55	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/14/13 05:55	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-045B-03 Lab ID: 92164577010 Collected: 07/10/13 12:55 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 06:11 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 06:11 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 06:11 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 06:11 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 06:11 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 06:11 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 06:11 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 06:11 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 98 % 70-130 1 07/14/13 06:11 460-00-4									
Dibromofluoromethane (S) 107 % 70-130 1 07/14/13 06:11 1868-53-7									
1,2-Dichloroethane-d4 (S) 111 % 70-130 1 07/14/13 06:11 17060-07-0									
Toluene-d8 (S) 102 % 70-130 1 07/14/13 06:11 2037-26-5									

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-154A-03 Lab ID: 92164577011 Collected: 07/10/13 13:45 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene ND ug/L 1.0 0.56 1 07/14/13 06:27 75-35-4									
cis-1,2-Dichloroethene ND ug/L 1.0 0.19 1 07/14/13 06:27 156-59-2									
trans-1,2-Dichloroethene ND ug/L 1.0 0.49 1 07/14/13 06:27 156-60-5									
Tetrachloroethene ND ug/L 1.0 0.46 1 07/14/13 06:27 127-18-4									
Toluene ND ug/L 1.0 0.26 1 07/14/13 06:27 108-88-3									
1,1,1-Trichloroethane ND ug/L 1.0 0.48 1 07/14/13 06:27 71-55-6									
Trichloroethene ND ug/L 1.0 0.47 1 07/14/13 06:27 79-01-6									
Vinyl chloride ND ug/L 1.0 0.62 1 07/14/13 06:27 75-01-4									
Surrogates									
4-Bromofluorobenzene (S) 95 % 70-130 1 07/14/13 06:27 460-00-4									
Dibromofluoromethane (S) 109 % 70-130 1 07/14/13 06:27 1868-53-7									
1,2-Dichloroethane-d4 (S) 110 % 70-130 1 07/14/13 06:27 17060-07-0									
Toluene-d8 (S) 98 % 70-130 1 07/14/13 06:27 2037-26-5									

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-154B-03 Lab ID: 92164577012 Collected: 07/10/13 13:50 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 06:42	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 06:42	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 06:42	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 06:42	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 06:42	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 06:42	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 06:42	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 06:42	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/14/13 06:42	460-00-4	
Dibromofluoromethane (S)	113 %		70-130		1		07/14/13 06:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	114 %		70-130		1		07/14/13 06:42	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		07/14/13 06:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-152A-03 Lab ID: 92164577013 Collected: 07/10/13 14:40 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 06:58	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 06:58	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 06:58	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 06:58	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 06:58	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 06:58	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 06:58	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 06:58	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/14/13 06:58	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/14/13 06:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	113 %		70-130		1		07/14/13 06:58	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		07/14/13 06:58	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

Sample: PW-152B-03 Lab ID: 92164577014 Collected: 07/10/13 14:45 Received: 07/10/13 15:31 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 07:14	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 07:14	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 07:14	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 07:14	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 07:14	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 07:14	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 07:14	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 07:14	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		07/14/13 07:14	460-00-4	
Dibromofluoromethane (S)	112 %		70-130		1		07/14/13 07:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	113 %		70-130		1		07/14/13 07:14	17060-07-0	
Toluene-d8 (S)	102 %		70-130		1		07/14/13 07:14	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006

Pace Project No.: 92164577

QC Batch:	MSV/23622	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92164577001, 92164577002, 92164577003, 92164577004, 92164577005, 92164577006, 92164577007, 92164577008, 92164577009, 92164577010, 92164577011, 92164577012, 92164577013, 92164577014		

METHOD BLANK: 1009829 Matrix: Water

Associated Lab Samples: 92164577001, 92164577002, 92164577003, 92164577004, 92164577005, 92164577006, 92164577007,
92164577008, 92164577009, 92164577010, 92164577011, 92164577012, 92164577013, 92164577014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
1,1,1-Trichloroethane	ug/L	ND	1.0	07/13/13 22:02	
1,1-Dichloroethene	ug/L	ND	1.0	07/13/13 22:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 22:02	
Tetrachloroethene	ug/L	ND	1.0	07/13/13 22:02	
Toluene	ug/L	ND	1.0	07/13/13 22:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/13/13 22:02	
Trichloroethene	ug/L	ND	1.0	07/13/13 22:02	
Vinyl chloride	ug/L	ND	1.0	07/13/13 22:02	
1,2-Dichloroethane-d4 (S)	%	112	70-130	07/13/13 22:02	
4-Bromofluorobenzene (S)	%	97	70-130	07/13/13 22:02	
Dibromofluoromethane (S)	%	112	70-130	07/13/13 22:02	
Toluene-d8 (S)	%	100	70-130	07/13/13 22:02	

LABORATORY CONTROL SAMPLE: 1009830

Parameter	Units	Spike	LCS		LCS	% Rec		Limits	Qualifiers
		Conc.	Result	% Rec	Rec	Rec	% Rec		
1,1,1-Trichloroethane	ug/L	50	54.9	110	70-130				
1,1-Dichloroethene	ug/L	50	56.4	113	70-132				
cis-1,2-Dichloroethene	ug/L	50	51.1	102	70-131				
Tetrachloroethene	ug/L	50	53.7	107	70-130				
Toluene	ug/L	50	52.0	104	70-130				
trans-1,2-Dichloroethene	ug/L	50	51.7	103	70-130				
Trichloroethene	ug/L	50	52.0	104	70-130				
Vinyl chloride	ug/L	50	65.4	131	69-130 L3				
1,2-Dichloroethane-d4 (S)	%			104	70-130				
4-Bromofluorobenzene (S)	%			101	70-130				
Dibromofluoromethane (S)	%			103	70-130				
Toluene-d8 (S)	%			99	70-130				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1009831 1009832

Parameter	Units	MS		MSD		MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		92164577003	Result	Spike	Conc.	MS	MSD	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	65.5	72.5	131	145	70-166	10	30		
Toluene	ug/L	ND	50	50	54.6	58.9	109	118	70-155	8	30		
Trichloroethene	ug/L	ND	50	50	58.7	64.0	117	128	69-151	9	30		
1,2-Dichloroethane-d4 (S)	%						109	112	70-130				
4-Bromofluorobenzene (S)	%						96	96	70-130				

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006
Pace Project No.: 92164577

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1009831 1009832

Parameter	Units	Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Limits	Max	RPD	RPD	Qual
			92164577003	Spike Conc.	Spike Conc.	Result	Result	Result	% Rec	% Rec					
Dibromofluoromethane (S)	%							107		109	70-130				
Toluene-d8 (S)	%							98		101	70-130				

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CTS of Asheville 6252120006
 Pace Project No.: 92164577

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS of Asheville 6252120006
 Pace Project No.: 92164577

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92164577001	TB-03-03	EPA 8260	MSV/23622		
92164577002	FD-04-03	EPA 8260	MSV/23622		
92164577003	PW-124-03	EPA 8260	MSV/23622		
92164577004	PW-096A-03	EPA 8260	MSV/23622		
92164577005	PW-096B-03	EPA 8260	MSV/23622		
92164577006	PW-111A-03	EPA 8260	MSV/23622		
92164577007	PW-111B-03	EPA 8260	MSV/23622		
92164577008	PW-041-03	EPA 8260	MSV/23622		
92164577009	PW-045A-03	EPA 8260	MSV/23622		
92164577010	PW-045B-03	EPA 8260	MSV/23622		
92164577011	PW-154A-03	EPA 8260	MSV/23622		
92164577012	PW-154B-03	EPA 8260	MSV/23622		
92164577013	PW-152A-03	EPA 8260	MSV/23622		
92164577014	PW-152B-03	EPA 8260	MSV/23622		

REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: March 13, 2013

Page 1 of 2

Document No.: F-ASV-CS-003-rev.09

Issuing Authorities:
Pace Asheville Quality OfficeClient Name: AMECWhere Received: Huntersville Asheville Eden RaleighCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None Other _____Circle Thermometer Used: IR Gun#2 -80344039 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
IR Gun Back Up- 111565135Temp Correction Factor: Add / Subtract 0 - 1 CCorrected Cooler Temp.: 38 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: LJ/10/13

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	<u>J/S</u>	Date:	<u>7/10/13</u>
SRF Review:	<u>J/S</u>	Date:	<u>7/11/13</u>

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92164577



92164577



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
 Required Client Information:

Company: AMEC
 Address: 1308 Patton Ave.
 Asheville NC 28806
 Email To: Susan.kelly@amel.com
 Phone: 828.252.8130 FAX:
 Requested Due Date/TAT: Std

Section B
 Required Project Information:

Report To: Susan Kelly
 Copy To:
 Purchase Order No.: 0012101936
 Project Name: CTS of Asheville
 Project Number: 6252128006

Section C
 Invoice Information:

Attention: Susan Kelly
 Company Name: AMEC
 Address: 1308 Patton Ave., Asheville
 Pace Quote Reference:
 Pace Project Manager: Kevin Godwin
 Pace Profile #:

Page: 1 of 2	1686011	
REGULATORY AGENCY		
<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location:	STATE: NC	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Analysis Test	Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START	COMPOSITE END/GRAB	DATE								
1	SAMPLE ID (A-Z, 0-9, -) Sample IDs MUST BE UNIQUE	WTG	N/A N/A	10:00AM				2		X	X			001
2	ED-04-03	WTG	1 1	7/10/13 00:00				3		X		X		002
3	PW-124-03	WTG		7/10/13 9:00				3		X		X		003
4	PW-094A-03	WTG		7/10/13 9:50				3		X		X		004
5	PW-094B-03	WTG		7/10/13 9:55				3		X		X		005
6	PW-111A-03	WTG		7/10/13 10:30				3		X		X		006
7	PW-111B-03	WTG		7/10/13 10:35				3		X		X		007
8	PW-041-03	WTG		7/10/13 11:10				3		X		X		008
9	PW-095A-03	WTG		7/10/13 12:50				3		X		X		009
10	PW-045B-03	WTG		7/10/13 12:55				3		X		X		010
11	PW-154A-03	WTG	✓ ✓	7/10/13 13:45				3		X		X		011
12	PW-154B-03	WTG	N/A N/A	7/10/13 13:50				3		X		X		012
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			
* Site-specific compound list			Annually JAMEL		7/10/13	15:31	Josephine		7/10/13	15:31	78	V	V	V

SAMPLER NAME AND SIGNATURE				Temp in °C
PRINT Name of SAMPLER: SUSAN KELLY				
SIGNATURE of SAMPLER:				
DATE Signed (MM/DD/YY): 07/10/13		Received on Ice (Y/N)		
Custody Sealed (Y/N)		Samples intact (Y/N)		

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company: AMEC
Address: 1308 Patten Ave, Asheville, NC 28806
Email To: susan.kelly@amec.com
Phone: 8282521230 | Fax: 8282521230
Requested Due Date/TAT: Std.

Section B
Required Project Information:

Report To: Susan Kelly
Copy To:
Purchase Order No.: CO12101936
Project Name: CTS of Asheville
Project Number: 6252120006

Section C
Invoice Information:

Attention: Susan Kelly
Company Name: AMEC
Address: 1308 Patten Ave, Asheville, NC 28806
Pace Quote Reference:
Pace Project Manager: Kevin Edwin
Pace Profile #:

Page: 2 of 2	1686009	
REGULATORY AGENCY		
<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location:	STATE: NC	

ITEM #	SAMPLE ID (A-Z 0-9 / -) Sample IDs MUST BE UNIQUE	Matrix Codes		MATRIX CODE <small>(see valid codes to left)</small>	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test <small>Y/N</small>	Residual Chlorine <small>(Y/N)</small>	Pace Project No./ Lab I.D.
		Drinking Water	DW		COMPOSITE		COMPOSITE				Preservatives								
		Water	WT		START	END/GRAB	H ₂ SO ₄	HNO ₃			HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other				
Waste Water	WW	DATE	TIME	DATE	TIME	Unpreserved													
Product	P					H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other							
Soil/Solid	SL																		
Oil	OL																		
Wipe	WP																		
Air	AR																		
Tissue	TS																		
Other	OT																		
1	PW-152A-03	WT	6	N/A	N/A	7/10/13	19:40	3	X									013	
2	PW-152B-03	WT	6	N/A	N/A	7/10/13	19:45	3	X									014	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION			DATE	TIME	ACCEPTED BY / AFFILIATION			DATE	TIME	SAMPLE CONDITIONS						
*Site-Specific compound list			Amekelly/amec			7/10/13	15:31	Joseph Sison			7/10/13	15:31	2.8	4	Y	Y			

SAMPLER NAME AND SIGNATURE						Temp *C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER: SUSAN KELLY									
SIGNATURE of SAMPLER: Susan Kelly									
DATE Signed (MM/DD/YY): 07/10/13									

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

July 17, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



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CERTIFICATIONS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92164766001	TB-04-03	Water	07/11/13 00:00	07/11/13 14:30
92164766002	PW-126A-03	Water	07/10/13 17:25	07/11/13 14:30
92164766003	PW-126B-03	Water	07/10/13 17:30	07/11/13 14:30
92164766004	PW-BBER01A-03	Water	07/11/13 08:35	07/11/13 14:30
92164766005	PW-BBER01B-03	Water	07/11/13 08:40	07/11/13 14:30

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SAMPLE ANALYTE COUNT

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92164766001	TB-04-03	EPA 8260	KJM	12	PASI-C
92164766002	PW-126A-03	EPA 8260	KJM	12	PASI-C
92164766003	PW-126B-03	EPA 8260	KJM	12	PASI-C
92164766004	PW-BBER01A-03	EPA 8260	KJM	12	PASI-C
92164766005	PW-BBER01B-03	EPA 8260	KJM	12	PASI-C

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PROJECT NARRATIVE

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: July 17, 2013

General Information:

5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Sample: TB-04-03	Lab ID: 92164766001	Collected: 07/11/13 00:00	Received: 07/11/13 14:30	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 23:24	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 23:24	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 23:24	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 23:24	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 23:24	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 23:24	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 23:24	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 23:24	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		07/14/13 23:24	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		07/14/13 23:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/14/13 23:24	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/14/13 23:24	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Sample: PW-126A-03 Lab ID: 92164766002 Collected: 07/10/13 17:25 Received: 07/11/13 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 23:40	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 23:40	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 23:40	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 23:40	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 23:40	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 23:40	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 23:40	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 23:40	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/14/13 23:40	460-00-4	
Dibromofluoromethane (S)	116 %		70-130		1		07/14/13 23:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	114 %		70-130		1		07/14/13 23:40	17060-07-0	
Toluene-d8 (S)	96 %		70-130		1		07/14/13 23:40	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Sample: PW-126B-03 Lab ID: 92164766003 Collected: 07/10/13 17:30 Received: 07/11/13 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/14/13 23:55	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/14/13 23:55	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/14/13 23:55	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/14/13 23:55	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/14/13 23:55	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/14/13 23:55	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/14/13 23:55	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/14/13 23:55	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		1		07/14/13 23:55	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		07/14/13 23:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		07/14/13 23:55	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		07/14/13 23:55	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Sample: PW-BBER01A-03 Lab ID: 92164766004 Collected: 07/11/13 08:35 Received: 07/11/13 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/15/13 00:11	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/15/13 00:11	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/15/13 00:11	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/15/13 00:11	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/15/13 00:11	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/15/13 00:11	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/15/13 00:11	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/15/13 00:11	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		07/15/13 00:11	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		07/15/13 00:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		70-130		1		07/15/13 00:11	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		07/15/13 00:11	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Sample: PW-BBER01B-03 Lab ID: 92164766005 Collected: 07/11/13 08:40 Received: 07/11/13 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		07/15/13 00:27	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		07/15/13 00:27	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		07/15/13 00:27	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		07/15/13 00:27	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		07/15/13 00:27	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		07/15/13 00:27	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		07/15/13 00:27	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		07/15/13 00:27	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		07/15/13 00:27	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		07/15/13 00:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		07/15/13 00:27	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		07/15/13 00:27	2037-26-5	

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006

Pace Project No.: 92164766

QC Batch: MSV/23627 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92164766001, 92164766002, 92164766003, 92164766004, 92164766005

METHOD BLANK: 1009882 Matrix: Water

Associated Lab Samples: 92164766001, 92164766002, 92164766003, 92164766004, 92164766005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/14/13 22:52	
1,1-Dichloroethene	ug/L	ND	1.0	07/14/13 22:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/14/13 22:52	
Tetrachloroethene	ug/L	ND	1.0	07/14/13 22:52	
Toluene	ug/L	ND	1.0	07/14/13 22:52	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/14/13 22:52	
Trichloroethene	ug/L	ND	1.0	07/14/13 22:52	
Vinyl chloride	ug/L	ND	1.0	07/14/13 22:52	
1,2-Dichloroethane-d4 (S)	%	109	70-130	07/14/13 22:52	
4-Bromofluorobenzene (S)	%	99	70-130	07/14/13 22:52	
Dibromofluoromethane (S)	%	107	70-130	07/14/13 22:52	
Toluene-d8 (S)	%	100	70-130	07/14/13 22:52	

LABORATORY CONTROL SAMPLE: 1009883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	55.1	110	70-130	
1,1-Dichloroethene	ug/L	50	53.2	106	70-132	
cis-1,2-Dichloroethene	ug/L	50	50.6	101	70-131	
Tetrachloroethene	ug/L	50	51.9	104	70-130	
Toluene	ug/L	50	54.4	109	70-130	
trans-1,2-Dichloroethene	ug/L	50	50.2	100	70-130	
Trichloroethene	ug/L	50	52.5	105	70-130	
Vinyl chloride	ug/L	50	60.4	121	69-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1009884 1009885

Parameter	Units	Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
1,1-Dichloroethene	ug/L	ND	50	50	69.2	71.4	138	143	70-166	3	30	
Toluene	ug/L	ND	50	50	57.9	57.7	116	115	70-155	0	30	
Trichloroethene	ug/L	ND	50	50	60.8	62.7	122	125	69-151	3	30	
1,2-Dichloroethane-d4 (S)	%						107	109	70-130			
4-Bromofluorobenzene (S)	%						94	94	70-130			
Dibromofluoromethane (S)	%						107	108	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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QUALIFIERS

Project: CTS of Asheville 6252120006
 Pace Project No.: 92164766

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS of Asheville 6252120006
Pace Project No.: 92164766

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92164766001	TB-04-03	EPA 8260	MSV/23627		
92164766002	PW-126A-03	EPA 8260	MSV/23627		
92164766003	PW-126B-03	EPA 8260	MSV/23627		
92164766004	PW-BBER01A-03	EPA 8260	MSV/23627		
92164766005	PW-BBER01B-03	EPA 8260	MSV/23627		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: March 13, 2013
Page 1 of 2

Document No.: F-ASV-CS-003-rev.09

Issuing Authorities:
Pace Asheville Quality OfficeClient Name: AMECWhere Received: Huntersville Asheville Eden RaleighCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None Other _____Circle Thermometer Used: IR Gun # 80344039 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
IR Gun Back Up- 111565135Temp Correction Factor: Add / Subtract 0.1 CCorrected Cooler Temp.: 4.6 C Biological Tissue is Frozen: Yes No N/A

Comments:

Date and Initials of person examining contents: 6/11/13

Temp should be above freezing to 6°C

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	<u>JD</u>	Date:	<u>7/12/13</u>
SRF Review:	<u>GD</u>	Date:	<u>7/12/13</u>

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92164766



92164766



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a **LEGAL DOCUMENT**. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1											
Company: AMEC	Report To: Susan Kelly	Attention: Susan Kelly		Company Name: AMEC	REGULATORY AGENCY	1686010											
Address: 1308 Patton Ave Asheville NC 28806	Copy To:	Address: 1308 Patton Ave, Asheville		Pace Quote Reference:	<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER												
Email To: susan.kelly@amec.com	Purchase Order No.: 0012101936	Pace Project Manager: Kevin Godwin		Pace Profile #:	<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER												
Phone: 8282578130 Fax: 8282578130	Project Name: GTS of Asheville.																
Requested Due Date/TAT: std.	Project Number: 6252120006				Site Location: NC												
Section D Required Client Information		Matrix Codes MATRIX / CODE		COLLECTED		Requested Analysis Filtered (Y/N)											
ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START		Preservatives											
				DATE	TIME	DATE	TIME	# OF CONTAINERS	Y/N								
1	TB-04-03	WT	G	N/A	N/A	Lab prep	2	Unpreserved	X	X					Residual Chlorine (Y/N)	92164766	
2	PW-126A-03	WT	G			7/10/13 17:25	3	H ₂ SO ₄	X								001
3	PW-126B-03	WT	G			7/10/13 17:30	3	HNO ₃	X								002
4	PW-BBER01A-03	WT	G			7/11/13 8:35	3	HCl	X								003
5	PW-BBER01B-03	WT	G			7/11/13 8:40	3	NaOH	X								MS/MSD 004
6								Na ₂ S ₂ O ₃	X								005
7								Methanol	X								
8								Other	X								
9																	
10																	
11																	
12																	
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS							
*site-specific compound list		Marilyn J Amec		7/11/13	14:30	Lori Patten		7/11/13	14:30	4.6	g	4.66	7/11/13	Y			
SAMPLER NAME AND SIGNATURE												Temp in °C					
PRINT Name of SAMPLER: SUSAN KELLY												Received on Ice (Y/N)					
SIGNATURE of SAMPLER: Marilyn Kelly												Custody Sealed Cooler (Y/N)					
DATE Signed (MM/DD/YY): 07/11/13												Samples intact (Y/N)					
ORIGINAL																	

***Important Note:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

APPENDIX D

DATA VALIDATION REPORT

DATA VALIDATION REPORT
July 2013 Water Supply Monitoring
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina

Introduction

Water samples were collected at the CTS of Asheville, Inc. Superfund Site (Site) in Asheville, North Carolina in July 2013 and submitted for off-site laboratory analysis. Samples were analyzed by Pace Analytical Services, Inc., located in Charlotte, North Carolina. Results were reported in the following Sample Delivery Groups (SDGs): 92164131, 92164372, 92164577, and 92164766.

A listing of samples included in this Data Validation Report is presented in Table D.1. The project quality control limits are included in Table D.2. A summary of the analytical results is presented in Table D.3. Samples were analyzed by the following method:

- Volatile organic compounds (VOCs) by USEPA Method 8260 (project list only)

Data validation was completed based on procedures in the USEPA Region 4 Data Validation Standard Operating Procedures (SOP) for Organic Analysis (USEPA, 2008), Method 8260, and the CTS of Asheville Quality Assurance Project Plan (QAPP; AMEC, 2012). The validation included the following evaluations:

- Lab report narrative
- Sample collection and chain of custody
- Data package completeness
- Holding times
- Instrument tuning
- Initial and continuing calibrations
- QC blanks
- System monitoring compound recovery
- Laboratory control samples
- Matrix spike/matrix spike duplicates
- Field duplicates
- Internal standard response and retention time
- Data transcription
- Raw data and calculation checks
- Electronic data reporting
- Data qualification

The following laboratory or data validation qualifiers are used in the final data presentation.

U = target analyte is not detected at the reported detection limit

Results are interpreted to be usable as reported by the laboratory unless discussed in the following section.

Data Validation Results

Continuing calibration summary forms were not provided for SDGs 92164372, 92164577, and 92164766. For these SDGs continuing calibration percent differences and relative response factors were manually evaluated using the raw data.

A subset of project USEPA 8260 compounds (1,1,1-trichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, toluene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride) was reported in the data set.

No additional QC issues were identified during the data validation. Results are interpreted to be usable as reported by the laboratory.

References

AMEC, 2012. "Quality Assurance Project Plan for Water Supply Monitoring"; February 24, 2012.

USEPA Region 4, 2008. "Data Validation Standard Operating Procedures for Organic Analysis" Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Revision 3.1.

Data Validator: Julie Ricardi



Date: 8/16/2013

Reviewed by Chris Ricardi, NRCC-EAC



Date: 8/20/2013

TABLE D.1
Data Validation Report: Sample Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

SDG	Field Sample ID	Date Collected	Lab ID	EPA 8260
92164131	TB-01-03	07/08/13	92164131001	8
92164131	FD-01-03	07/08/13	92164131002	8
92164131	PW-086A-03	07/08/13	92164131003	8
92164131	PW-086B-03	07/08/13	92164131004	8
92164131	PW-071A-03	07/08/13	92164131005	8
92164131	PW-071B-03	07/08/13	92164131006	8
92164131	PW-155A-03	07/08/13	92164131007	8
92164131	PW-155B-03	07/08/13	92164131008	8
92164131	PW-134A-03	07/08/13	92164131009	8
92164131	PW-134B-03	07/08/13	92164131010	8
92164372	TB-02-03	07/09/13	92164372001	8
92164372	FD-02-03	07/09/13	92164372002	8
92164372	FD-03-03	07/09/13	92164372003	8
92164372	PW-137A-03	07/09/13	92164372004	8
92164372	PW-137B-03	07/09/13	92164372005	8
92164372	PW-090-03	07/09/13	92164372006	8
92164372	PW-150A-03	07/09/13	92164372007	8
92164372	PW-150B-03	07/09/13	92164372008	8
92164372	PW-023A-03	07/09/13	92164372009	8
92164372	PW-023B-03	07/09/13	92164372010	8
92164372	PW-110A-03	07/09/13	92164372011	8
92164372	PW-110B-03	07/09/13	92164372012	8
92164372	PW-112A-03	07/09/13	92164372013	8
92164372	PW-112B-03	07/09/13	92164372014	8
92164372	PW-059A-03	07/09/13	92164372015	8
92164372	PW-059B-03	07/09/13	92164372016	8
92164372	PW-053A-03	07/09/13	92164372017	8
92164372	PW-053B-03	07/09/13	92164372018	8
92164372	PW-129A-03	07/09/13	92164372019	8
92164372	PW-129B-03	07/09/13	92164372020	8
92164577	TB-03-03	07/10/13	92164577001	8
92164577	FD-04-03	07/10/13	92164577002	8
92164577	PW-124-03	07/10/13	92164577003	8
92164577	PW-096A-03	07/10/13	92164577004	8
92164577	PW-096B-03	07/10/13	92164577005	8
92164577	PW-111A-03	07/10/13	92164577006	8
92164577	PW-111B-03	07/10/13	92164577007	8
92164577	PW-041-03	07/10/13	92164577008	8
92164577	PW-045A-03	07/10/13	92164577009	8
92164577	PW-045B-03	07/10/13	92164577010	8
92164577	PW-154A-03	07/10/13	92164577011	8
92164577	PW-154B-03	07/10/13	92164577012	8
92164577	PW-152A-03	07/10/13	92164577013	8
92164577	PW-152B-03	07/10/13	92164577014	8
92164766	TB-04-03	07/11/13	92164766001	8
92164766	PW-126A-03	07/10/13	92164766002	8
92164766	PW-126B-03	07/10/13	92164766003	8
92164766	PW-BBER01A-03	07/11/13	92164766004	8
92164766	PW-BBER01B-03	07/11/13	92164766005	8

Note:

1. Number listed under method indicates the number of target analytes reported.

Prepared By: WCG 7/31/13

Checked By: JAR 8/18/13

TABLE D.2
Data Validation Report: Quality Control Limits
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Parameter	QC Test	%R	RPD
VOC	Surrogate	70-130	
	LCS/LCSD	70-130	30
	MS/MSD	70-130	30
	Field Duplicate		30

Notes:

LCS = laboratory control sample

LCSD = laboratory control sample duplicate

MS = matrix spike

MSD = matrix spike duplicate

%R = percent recovery

RPD = relative percent difference

Prepared By: CSR 8/7/13

Checked By: JAR 8/18/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		BBER01		BBER01		MGPW023		MGPW023		MGPW023	
			Field Sample ID	Sample Date	PW-BBER01A-03	07/11/13	PW-BBER01B-03	07/11/13	FD-02-03	07/09/13	PW-023A-03	07/09/13	PW-023B-03	07/09/13
					Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW041		MGPW045		MGPW045		MGPW053		MGPW053		MGPW053	
			Field Sample ID	Sample Date	PW-041-03	07/10/13	PW-045A-03	07/10/13	PW-045B-03	07/10/13	FD-03-03	07/09/13	PW-053A-03	07/09/13	PW-053B-03	07/09/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW059		MGPW059		MGPW071		MGPW071		MGPW071		MGPW086	
			Field Sample ID	Sample Date	PW-059A-03	07/09/13	PW-059B-03	07/09/13	FD-01-03	07/08/13	PW-071A-03	07/08/13	PW-071B-03	07/08/13	PW-086A-03	07/08/13
					Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW086		MGPW090		MGPW096		MGPW096		MGPW110		MGPW110	
			Field Sample ID	Sample Date	PW-086B-03	07/08/13	PW-090-03	07/09/13	PW-096A-03	07/10/13	PW-096B-03	07/10/13	PW-110A-03	07/09/13	PW-110B-03	07/09/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW111		MGPW111		MGPW112		MGPW112		MGPW124		MGPW126	
			Field Sample ID	Sample Date	PW-111A-03	07/10/13	PW-111B-03	07/10/13	PW-112A-03	07/09/13	PW-112B-03	07/09/13	PW-124-03	07/10/13	PW-126A-03	07/10/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW126		MGPW129		MGPW129		MGPW134		MGPW134		MGPW137	
			Field Sample ID	Sample Date	PW-126B-03	07/10/13	PW-129A-03	07/09/13	PW-129B-03	07/09/13	PW-134A-03	07/08/13	PW-134B-03	07/08/13	PW-137A-03	07/09/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW137		MGPW150		MGPW150		MGPW152		MGPW152		MGPW154	
			Field Sample ID	Sample Date	PW-137B-03	07/09/13	PW-150A-03	07/09/13	PW-150B-03	07/09/13	PW-152A-03	07/10/13	PW-152B-03	07/10/13	PW-04-03	07/10/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U		1 U	

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		MGPW154		MGPW154		MGPW155		MGPW155		QC TB-01-03 07/08/13	QC TB-02-03 07/09/13
			Field Sample ID	Sample Date	PW-154A-03 07/10/13	PW-154B-03 07/10/13	PW-155A-03 07/08/13	PW-155B-03 07/08/13	Result	Qual	Result	Qual		
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	1,1-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	Tetrachloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	Toluene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	Trichloroethene	µg/L			1 U		1 U		1 U		1 U		1 U	1 U
EPA 8260	Vinyl chloride	µg/L			1 U		1 U		1 U		1 U		1 U	1 U

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13

TABLE D.3
Data Validation Report: Final Results Summary (July 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-120006

Method	Parameter	Unit	Location		QC	
			Field Sample ID	Sample Date	TB-03-03	TB-04-03
					07/10/13	07/11/13
EPA 8260	1,1,1-Trichloroethane	µg/L			1 U	1 U
EPA 8260	1,1-Dichloroethene	µg/L			1 U	1 U
EPA 8260	cis-1,2-Dichloroethene	µg/L			1 U	1 U
EPA 8260	Tetrachloroethene	µg/L			1 U	1 U
EPA 8260	Toluene	µg/L			1 U	1 U
EPA 8260	trans-1,2-Dichloroethene	µg/L			1 U	1 U
EPA 8260	Trichloroethene	µg/L			1 U	1 U
EPA 8260	Vinyl chloride	µg/L			1 U	1 U

Notes:

UG/L = microgram per liter

U = not detected at the reporting limit

Prepared By: WCG 8/19/13

Checked By: JAR 8/19/13